



The Official Journal of the Foundation For Amateur Radio, Inc.

OCTOBER 1996



FCC Highlights • ARRL Report • VE Exams Schedule
Public Service Report • DX Column • Regional Hamfests
Club Reports • Shack Sales • Much More!

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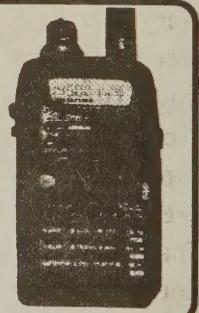
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Regional Hamfests and Other Events

September 21/22	Virginia Beach Hamfest, Virginia Beach, VA
September 21	Buffalo Hamfest - Hamburg, NY
September 21	Western NY Section Convention - Hamburg, NY
September 22	South Jersey Radio Assn - Mt. Holly, NJ
September 28	ARA of the Southern Tier - Horseheads, NY
October 13	Columbia Amateur Radio Assn. Hamfest, W. Friendship, MD
October 20	RF Hill ARC - Sellersville, PA
October 27	Penn Wireless Assn - Newtown, PA
October 27	Mason-Dixon - Westminster, MD

Marine Corps Marathon



0530-1530(+-) On Sunday,
October 27th

**Needed: A few good
men and women**

Volunteers are needed (80 or so) to provide medical/support communications via ham radio for the 26th annual marathon. To volunteer, please contact the Marine Corps Marathon sign-up voice mail number at:

(703) 359-3414



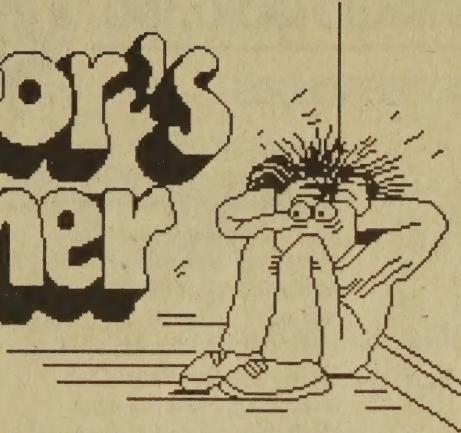
(Photo by Roger Davis, N3MIJ)

On The Cover

The Laurel Amateur Radio Club VE team were surprised and pleased to have Ethel Smith, K4LMB, appear for testing at their August 17 session. First licensed in 19365, she has been championing the "service" aspect of our hobby ever since. Most hams know that Ethel was the editor of AutoCall for many, many years. On the cover, Ethel is shown receiving her Certificate of Successful Completion, having just passed exams for her EXTRA class license. John Creel, WB3GXW, of the Laurel VE team made the presentation.

Editor's Corner

By John Queen
KAØSEY



I recently returned from the FARfest hamfest in Gaithersburg, MD. It is truly one of the premier gathering spots for amateur radio each year in the Washington, DC area. My accolades to Al Brown, WA3FYZ, and his spirited and tireless volunteers for pulling off yet another successful year. Even though the recent hurricane weather kept some people away, there were enough cars and trucks parked on the fairground grass to fill a small third world country.

Hamfests really are a wonderful shopping experience. Row after row, table after table, aisle after aisle of everything the ham radio operator could hope for, and then some. But it's the 'then some' part of hamfests that concerns me. From my perspective, ham radio equipment and supplies, and even computer hardware and software are acceptable offerings at a hamfest. But slot machines? Pocket knives? Hula hoops? Porcelain dolls? It seems that the spirit of the hamfest has turned into a "Stuff Fest".

I'd like to think that ham radio operators go to hamfests to find good deals on new and used ham radio equipment and supplies. Not to shop for junk. So why is it that some hamfest vendors feel that the laminated burl wood clock with a brush painted picture of Elvis on it is going to appeal to the dedicated amateur radio operator?

At Gaithersburg, as well as other hamfests I've attended lately, the focus is definitely on ham radio and computers. But it seems that too many junk

vendors are showing up with their wares at these events. Now, don't get me wrong. Those who know me will certainly attest that I am 100% for free enterprise. But there is a place for everything. And a hamfest is not the place for old western videos.

I'm not blaming the hamfest organizers who allow these vendors to peddle their wares. Afterall, ham radio clubs, the FAR included, depend on income from renting table space just as much as they depend on income from general admission tickets to make a hamfest successful. But I'm curious to know what filtering processes are used when making table space available to hamfest vendors.

In recent years, there was a growing trend at many hamfests where some vendors sold adult entertainment software at their tables. Generally packaged as CD-ROM's with revealing cover photographs, these sexually oriented computer programs were in plain sight of all who passed by. Fortunately, I've seen them disappear from hamfests. I think that hamfest organizers started to see the legal and moral implications involved in allowing vendors to sell this type of merchandise.

Yet, it still bothers me that the junk peddlers are allowed to peddle their non-ham related wares at hamfests. But most of all, it bothers me that I can't find a place on my wall for my new laminated burl wood Elvis clock....

73's, de KAØSEY, John

The Foundation For Amateur Radio, Inc.



Washington, DC

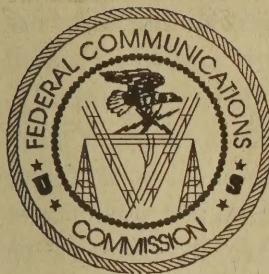
MEMBER CLUBS

Adams County Amateur Radio Society
Alexandria Radio Club
Amateur Radio Research and Develop. Corp.
AMSAT - Radio Amateur Satellite Corporation
Anne Arundel Radio Club
Antietam Radio Association, Inc.
ARINC Amateur Radio Club
Arlington Amateur Radio Club
Baltimore Amateur Radio Club
Baltimore Radio Amateur Television Society
Capital City Amateur Radio Society
Capital Hill Amateur Radio Society
Carroll County Amateur Radio Club
Central Maryland Amateur Radio Club
Chaverim of the Greater Washington Area
Columbia Amateur Radio Association
Culpeper Amateur Radio Association
D-MARC - Digital Mid-Atlantic Radio Council
Department of State Amateur Radio Club
Explorer Post #80 - Amateur Radio
Fauquier Amateur Radio Association
Frederick Amateur Radio Club
Frederick Amateur Repeater Group
Goddard Amateur Radio Club
Green Mountain Repeater Association
Hanover Area Hamming Association
Herndon Repeater Group
Historical Electronics Museum Amateur Radio Club
IBM Amateur Radio Club
Johns Hopkins University APL ARC
Kent Island Amateur Radio Club
Laurel Amateur Radio Club
Leisure World Amateur Radio Club
Loudoun Amateur Radio Group
MD/DC MARS (Navy Marine) Association
MADRAS
Maryland Emergency Phone Net
Maryland FM Association
Maryland Mobileers Amateur Radio Club
Mercury Amateur Radio Assn., NE Area
Metropolitan Communications Network
Métrovision Amateur TV Club
Mid-Atlantic DX & Repeater Assn.
Montgomery Amateur Radio Club
Montgomery Auxiliary Communications Service
Moose Amateur Radio Club
Mount Vernon Amateur Radio Club
National Capitol ARES Council
National Capitol DX Association
Naval Research Laboratory Radio Club
NOAA Amateur Radio Club
North Point FM Association
Northern Virginia FM Association
Northern Virginia Radio Club
Ole Virginia Hams Amateur Radio Club
Opequon Radio Society
Pentagon Amateur Radio Club
Potomac Area VHF Society
Potomac Valley Radio Club
Prince George's Wireless Association, Inc.
Prince George's County ARES/RACES
Quarter Century Wireless Association, Inc.
Baltimore Chapter #20
Del-Mar-VA Chapter #150
Shenandoah Valley Chapter #137
Vic Clark Chapter #91
Washington Chapter #23
Rock Creek Amateur Radio Association
St. Mary's County Amateur Radio Association
Shenandoah Valley Amateur Radio Club
Southern Maryland Amateur Radio Club
Southern Patuxent Amateur Radio Club
Stafford Amateur Radio Assn.
Sterling Park Amateur Radio Club
Summit Amateur Radio Association
Tri-County Amateur Radio Club
T-MARC, Middle Atlantic Repeater Council
Vienna Wireless Society
Voice of America Amateur Radio Club
Waldorf Repeater Support Group
Washington Adventist Amateur Radio Assn.
Washington Area Young Ladies ARC
Woodbridge Wireless, Inc.

NEXT FOUNDATION MEETING

The Foundation for Amateur Radio, Inc. meets at 8: p.m. on the second Wednesday of each month. **Visitors are always welcome!** The next meeting will be held on October 9th in Takoma Park, Maryland at Columbia Union College, HMS Richards Bldg., Flower Avenue (Take beltway exit 30, South on Colesville Road to Franklin Avenue, left on Franklin to Flower, right on Flower to Carroll Ave., left on Carroll to Greenwood Ave., left on Greenwood to 2nd building on left.

Talk-in on
146.55



FCC Highlights

By Jack Kelleher.
W4ZC

Bio Hazards of Non-ionizing EM Radiation

At the FCC Open Meeting on Thursday, August 1, the commission adopted a Report and Order in ET Docket No. 93-62 concerning Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation. The text of the Report and Order is already posted at the Commission's web site (<http://@.fcc.gov>) and may be downloaded in either Word Perfect or Acrobat format by going to the page.

What Happened Last Month?

What happened? My computer had a massive problem which took two weeks to overcome, that's what happened. Publications deadlines are immutable, and not having used a typewriter (remember them?) for five years, I could not recycle to that mode on short notice, so — no column. Sorry about that.

Editor's note: Every once in a while we include something which is not an FCC Highlight, but because we think it is pertinent to amateur radio allocations and usage. This month we are including three such articles.

One is on objections of the General Mobile Radio Service organization to sharing their bands with the new Family Radio Service.

Another is on FCC action preempting local regulations restricting the rights of homeowners and businesses to install television antennas and satellite dishes. As noted therein, such preemption might also stop municipalities from restricting most two-way radio antenna systems, including those of licensed radio amateurs.

A third item concerns a Bill introduced by Wisconsin Senator Russ Feingold which would give state, county and local governments the ability to regulate interference from CB radios. Before you say "it's about time", consider the possibilities if such action was extended to other services.

The Telecommunications Act of 1996 required a timely resolution of this proceeding. The Commission had proposed to update its guidelines by using the 1992 ANSI/IEEE standards instead of the 1982 ANSI standards that had formed the basis for the existing rules under which Amateur Radio stations were categorically exempted.

Under the rules just adopted, and following a transition period that will end on January 1, 1997, only amateur stations with transmitter powers of 50 W PEP output or less will be categorically exempted. Operators of other amateur stations will have to abide by the following new rules:

Section 97.13 is amended by adding paragraph (c) to read as follows:

97.13 Restrictions on station location.

(c) Before causing or allowing an amateur station to transmit from any place where the operation of the station could cause human exposure to levels of radio frequency (RF) radiation in excess of that allowed under 1.1310 of this chapter, the licensee is required to take certain actions. A routine RF radiation evaluation, as discussed in 1.1307(b) of this chapter, is required if the transmitter power exceeds 50 watts peak envelope power; otherwise the operation is categorically excluded from routine RF radiation evaluation except as specified in 1.1307(c) and 1.1307(d) of this chapter. Where the routine evaluation indicates that the RF radiation could be in excess of the limits contained in 1.1310 of this

chapter, the licensee must take action to prevent such an occurrence. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, "Evaluation Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."

Amateur examinations for Novice, Technician, and General licenses will be expanded to include 5 additional questions each on RF environmental safety practices.

(Note 1: We understand that the ARRL has asked for a postponement on the matter of new examination questions on RAD HAZ. Note 2: This debate on thresholds of injurious radiation goes on and on.) The aforementioned 1992 IEEE Standard includes a brief historical summary, as follows:

"In 1960, the American Standards Association approved the initiation of the Radiation Hazards Standards project under the cosponsorship of the Department of the Navy and the Institute of Electrical and Electronics Engineers.

"Prior to 1988, C95 standards were developed by an accredited standards committee C95, and submitted to ANSI (The American National Standards Institute) for approval and issuance as ANSI C95 standards. Between 1988 and 1990, the committee was converted to Standards Coordinating Committee 28 under the sponsorship of the IEEE Standards Board. In accordance with policies of the IEEE, C95 standards will be issued and developed as IEEE standards, as well as being submitted to ANSI for recognition.

"The present scope of IEEE SCC28 is development of standards for the safe use of electromagnetic energy in the range of 0 Hz to 300 GHz relative to the potential hazards of exposure of man, volatile materials, and explosive devices. It is not intended to include infrared, visible, ultraviolet or ionizing radiation. The committee will coordinate with other committees whose scopes are contiguous with SCC28".

GMDS versus the Family Radio Service

General Mobile Radio Service users do not want to share spectrum with a newly created Family Radio Service that could be a nightmare to control and their lobby group is taking a point position in asking the FCC to enact some major rules changes. The Michigan based Personal Radio Steering Group filed a Petition for Reconsideration that contends that current FRS rules do not preclude repeaters, nor do they bar the transmission of music and other sound effects. Also not covered is the transmission of obscene or indecent language or issuing phony distress calls. The Personal Radio Steering Group believes that all of these prohibitions must be put in place and that the FCC must also place a strictly enforced time limit on all Family Radio Service transmissions. It also is asking that FRS users be required to monitor activity on a channel before transmitting.

WIND PROFILERS ARE BACK

A new version of an old adversary to amateur radio 70 centimeter operation is reappearing, and this time with full government support.

The newest threat to the amateur 440 MHz band has been announced by NOAA, the National Oceanic and Atmospheric Administration. WPRs or Wind Profiler Radar units operating in the 449 MHz segment of the amateur UHF band are scheduled for deployment in the near future to a number of sites throughout the continental U.S. WPRs will be used to monitor wind velocity and direction. Frequency coordination, spectrum allocations, as well as possible in band interference are being monitored by the Federal Communications Commission and the International Telecommunication Union.

FCC to open Gate 2

The FCC has announced that vanity call sign filing Gate 2 will open September 23. Under Gate 2, Amateur Extra class licensees may request a

Continued next page

vanity call sign on or after that date. File requests on FCC Form 610V. Legibility is critical. If your application is not legible, you could experience a delay in processing, lose the opportunity to obtain a requested call sign or even obtain a call sign different from what you want.

Under Gate 2, you must hold an unexpired Amateur Extra class operator/primary station license to request a vanity call sign for your primary station. To request a vanity call sign for a club station under Gate 2, you must also hold an unexpired club station license grant listing you as the license trustee.

Applicants should refer to the licensee data base to verify that a requested call sign is not already assigned. A call sign is normally assignable two years following license expiration, surrender, revocation, set aside, cancellation, void ab initio, or death of the grantee.

Using Form 610V, provide a list of up to 25 call signs in the order of preference. The first assignable call sign on the list will be assigned to your station. Remember: When requesting a call sign under Gate 2 for your primary or club station, the call sign must have been unassigned for at least two years. As an Amateur Extra class operator, you may request a call sign from any group.

Any call sign requested must be one designated for the region of your mailing address, as follows: One of the contiguous 48 states: Regions 1 to 10. Alaska: Regions 1 to 11. American Samoa: Regions 1 to 10, or Region 13 having numeral 8. Commonwealth of Northern Mariana Islands: Regions 1 to 10, or Region 13 having numeral 0. Guam: Regions 1 to 10, or Region 13 having numeral 2. Hawaii: Regions 1 to 10, or Region 13 having numeral 6 or 7. Puerto Rico: Regions 1 to 10, or Region 12 having numeral 3 or 4. Virgin Islands: Regions 1 to 10, or Region 12 having numeral 2.

For explanations of Groups A, B, C and D and the geographic Regions, see Fact Sheet PR5000

Number 206-S, Amateur Station Sequential Call Sign System. For more information, see Fact Sheet PR5000 Number 206-V Amateur Station Vanity Call Sign System.

Advanced, General, Technician Plus, Technician, and Novice class operators are not yet eligible to request by list. Advanced class operators will be eligible at Gate 3. Others will be eligible at Gate 4. (Ed. Note: ARRL Letter notes that: "As of August 6, the FCC's Larry Weikert reports 3545 applications have been filed with Gettysburg to take advantage of the (Vanity Callsign) program, which began May 31".)

FCC HONORS McMAMARA

Robert H. McNamara, chief of the FCC's Private Radio Division in the Wireless Telecommunications Bureau was among several FCC employees recently honored for advancing the mission and objectives of the FCC. This, through their sustained extraordinary or exceptional accomplishments.

Bob McNamara received a Distinguished Service Award gold medal. His Private Radio Division regulates the Amateur Radio Service.

FCC PREEMPTS LOCAL ANTENNA REGULATIONS

The FCC has adopted rules to prevent local governments from restricting the rights of homeowners and businesses to install television antennas and satellite dishes. These new regulations could also stop municipalities from restricting most two-way radio antenna systems, including those of licensed radio amateurs.

The new rules were enacted on Tuesday August 6th and prohibit the enforcement of local laws, rules, private covenants and homeowner association regulations that in any way interfere with television reception. This includes over the air broadcast stations, satellite delivered services

Continued next page

and microwave delivered wireless cable systems.

Enactment of these far reaching regulations is based on a regulatory interpretation issued earlier this year. At that time the commission acted to prevent any and all entities from restricting the installation of the popular pizza sized direct to consumer pay television systems. Broadcasters and other RF based delivery services that compete with cable systems claimed that regulations governing antennas for their services made interference free delivery difficult. As a result broadcasters saw the satellite television gaining an unfair advantage and began pushing for a similar exemption. The result is the across the board action that bans restrictions on all over the air television delivery services.

The new regulations do grant communities some leeway in interpretation. For instance, communities can still enforce local safety rules even if such regulations hinder reception. This includes banning the installation of antennas on fire escapes.

Antennas can also be restricted in regions that are considered to be historical districts but do not cover the installation of antennas on common property found in many planned communities. Also excluded is the placement of antennas on rental property, but the FCC says that it wants to receive comments on rules that could be enacted to protect those involved in rental situations.

Don't look for any immediate help to ham radio. The action covers only antennas and satellite dishes specifically intended for the reception of television signals. But it does open the door for FCC action on a similar request by the two-way radio industry. The two-way folks filed a request to the FCC late last year asking the commission to ban any and all local restrictions on communications antennas. If the FCC decides to invoke extended preemption for the two way radio industry, it may not be impossible for restrictions to be selectively enforced against the nations Amateur Radio community. Stay tuned, this is just the beginning

WISCONSIN SENATOR SEEKS LOCAL CONTROL OVER RFI

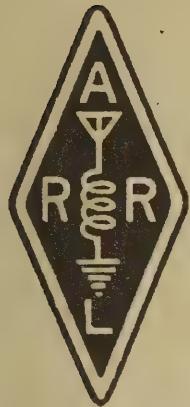
Acting in response to what he says are nearly 45,000 complaints to the FCC every year, first-term Sen Russ Feingold (D-Wisconsin) has introduced S 2025, which would give state, county and local governments the ability to regulate interference from CB radios "when that interference results from a violation of FCC rules."

Saying his bill "simply allows common sense to prevail," Feingold reasons his measure would give states and localities the ability to investigate and enforce Federal law, "thereby protecting the rights of their residents." The bill would only affect unauthorized CB transmitters or amplifiers. Municipalities could prohibit use of the equipment and levy fines or other monetary sanctions.

Recently, the City Council of Beloit, Wisconsin—reacting to complaints from local residents of interference to home electronic equipment—passed an ordinance that would give that city the power to enforce FCC regulations on CB interference. While the bill is an explicit reversal of the total Federal preemption over telecommunications matters granted by the Communications Act of 1934, it contains a provision reaffirming the continued Federal preemption in handling other types of RFI.

Feingold said he's tried to enlist FCC help in investigating constituents' RFI complaints without success. He said he was told the FCC no longer investigates RFI complaints and offers "only a packet of self-help information for the consumer to limit the interference on their own."

It's all a question of fairness, Feingold says: "It is not fair that municipalities and their residents should be hamstrung by an outdated Federal preemption of laws the Federal government no longer has the resources to enforce." The bill has been referred to the Senate Commerce, Science and Transportation Committee.



American Radio Relay League Report

By John Swafford,
W4HU

The ARRL Report provides a brief summary of information published in the ARRL LETTER and other reports. The LETTER provides timely news of interest to active Radio Amateurs. Any League member may subscribe to the ARRL LETTER.

New RF Safety standards include Amateur Radio

New RF safety standards that become effective January 1, 1997, could affect the way some hams operate.

As a result of a Report and Order adopted by the FCC on August 1 (ET Docket No. 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation), Part 97 will require hams running more than 50 W PEP to conduct routine RF radiation evaluations to determine if RF fields are sufficient to cause human exposure to RF radiation levels in excess of those specified.

"Exactly what is involved in conducting a 'routine RF radiation evaluation' is not yet clear," observed ARRL Executive Secretary David Sumner, K1ZZ, adding that the FCC has promised to release a revised OST/OET Bulletin Number 65, "Evaluation Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." The League is now studying the 100-plus page docket, to see if the League should seek reconsideration of any aspects of the FCC decision.

ARRL Laboratory Supervisor Ed Hare, KA1CV, said the new regulations will give hams an incentive to demonstrate that Amateur Radio operation is safe. "Although this means that hams will have to become more educated about RF safety, most amateur stations are already in compliance with the new regulations," Hare said.

Sumner said that for certain unusual situations where there is "uncontrolled exposure" to neighbors and the general public, "amateurs may well have to make changes in how they operate." The ARRL Lab staff and the RF Safety Committee are continuing to evaluate the new requirements.

Hare noted that the administrative burden for hams will be minimal, and the FCC does not require amateurs to submit any documentation to the FCC. "In essence, the FCC is telling amateurs that if they run more than 50 W, they need to learn about RF safety and evaluate how this applies to their own operation," he said.

The new regulations also will require the addition of five questions on RF environmental safety to the amateur examinations for Novice, Technician, and General-class elements 2, 3(A) and 3(B). Sumner noted that the Commission's Report and Order does not take into account the practical problems associated with such a significant revision to the volunteer administered amateur examinations, and that more time than the Commission has allowed will be required to do a good job.

The ARRL strongly opposed adoption of the new requirements. The ARRL said most Amateur Radio users do not possess the requisite equipment, technical skill, and/or financial resources to conduct an environmental analysis.

The League has, for several years, recommended a policy of "prudent avoidance" of exposure to electromagnetic radiation as a common-sense approach to potential—but not yet proven—health hazards and against such practices

Continued next page

as running high power to indoor antennas or to mobile antennas that might expose the vehicle's occupants. The ARRL also argued that amateur stations, because of their intermittent operation, low duty cycles, and relatively low power levels, rarely exceed the 1992 ANSI/IEEE standard. Finally, the ARRL noted that unlike other radio services, RF safety questions already are included in amateur license examinations.

For now, the League advises hams not to panic and to read up on the subject. You can download the complete Report and Order by pointing to <http://www.fcc.gov/Bureaus/Engineering-Technology/Orders/fcc96326.txt>. Other resources are available on the ARRL Web page at <http://www.arrl.org/news/rfsafety/>.

General information on RF safety is available in the safety sections of the 1996 edition of the ARRL Handbook and in the 15th edition of the ARRL Antenna Book. These materials offer guidelines on how to comply with the ANSI standard the Report and Order refers to.

Additionally, the ARRL Technical Information Service offers an information package on RF safety. It includes a reprint of the Handbook material, an April 1994 QST article by Wayne Overbeck, N6NB, and a bibliography on the subject. This package is available for \$2 for ARRL members or \$4 for nonmembers, postpaid. Nonmembers should include payment with orders.

Contact Bridget DiCosimo, e-mail bdicosimo@arrl.org or write 225 Main St, Newington, CT 06111. Other resources are available on the ARRLWeb page at <http://www.arrl.org/news/rfsafety/>. The ARRLWeb information will be updated as circumstances dictate.

TWA 800: Lessons Learned

Some 125 hams from the Greater New York City-Long Island vicinity contributed more than 2500 volunteer hours to support recovery

operations in the wake of the TWA Flight 800 disaster on July 17. Although the recovery effort continues, Amateur Radio support—which was primarily on behalf of the American Red Cross—concluded during the last weekend in July.

"I hope all who assisted with the Flight 800 incident remember that it was only because of their tireless efforts that the job was done," said Walt Wenzel, KA2RGI, the Region IV RACES officer for the New York State Emergency Management Office (and Babylon, New York, ARES emergency coordinator and radio officer).

Wenzel also offered some lessons learned from the now-concluded recovery support effort. Among them: You can't always count on 2-meter repeaters alone to provide coverage (the Flight 800 recovery effort, in fact, relied on a 70-cm repeater). Also, keep a database of available equipment that can be loaned to operators who turn out.

Wenzel reminded prospective volunteers that while duty shifts usually are 8 hours, they often can be 10 or 12 hours long. "People have to remember that having two batteries does not mean they have long-term power for hand-helds," he said.

Darlana Mayo, KB2EPU, of Westchester County, New York, an assistant EC who was involved in the crash recovery, said previous drills and training didn't help much when the ham volunteers confronted the reality of the situation. "Nothing had prepared us for TWA. Nothing could have prepared us for this," she said. Mayo had some advice of her own.

"Don't try to be Superman," she recommended. Volunteers should know their limits and not try to stay on duty too long. "You get tired and make mistakes," she said. Both Wenzel and Mayo stressed flexibility, too. Be ready when asked to step into an assignment, but don't be surprised if plans suddenly change. "There are always going to be a few people standing by waiting for an assignment," Wenzel said. He also said volunteer

might be serving several agencies with differing requirements, so they have to be on their toes."

And both agree that coordination is the key, "Coordinate, coordinate, coordinate with other ECS" Mayo said. Wenzel said individual volunteers also must coordinate their involvement with those in charge and "not just show up to assist." Both also recommended that volunteers not make statements to the media.

Even those with little or no public service experience can be valuable in an emergency situation, Wenzel said. "Do not think because you have not been involved for long with emergency communications or Amateur Radio that you cannot assist," he said. "most people that can assist are new and are learning, and if you have checked into club nets and ARES or RACES nets, then you have the basics needed to assist."

Renew or Join the League On Line

It's now possible to renew your League membership or to join the ARRL on line. All you have to do is point to <http://www.arrl.org/> on the World Wide Web, click where it says ARRLWeb's online membership form (or go right to the form at <http://www.arrl.org/forms/member-general.html>, and fill in the form. Payment is available via credit card, but if you'd rather not leave your card number, there's an option to leave a telephone number and someone at HQ will call you back.

If you'd rather renew or join by telephone, the toll-free number is 888-277-5289.

QSLs Sought for Ham Radio Cop Shot in Line of Duty

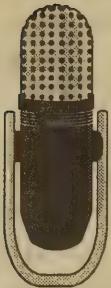
W.D. "Dave" Harvey, KE4VDP, of Lithonia, Georgia, is recuperating from gunshot injuries that almost cost him his arm and still could cost him his career as a police officer. On July 13, Harvey, who's with the DeKalb County Police Department in Decatur, Georgia, responded to a call of shots fired. He came face-to-face with a man armed with a rifle who fired two shots at Harvey, hitting him once—in the left forearm—before two other officers returned fire and killed the man.

Harvey is out of the hospital following surgery, but he's been told he might lose much of the use of his hand and that he might never again be able to work as a police officer. Even so, Lt J.E. Hanson of the DeKalb County PD says he visited Harvey recently and said he's remaining "very optimistic" that Harvey will be able to return to duty.

His friend and colleague, Jim Sheppard, KT4FD, says Harvey has been a ham for about a year and a half and has never received a QSL card. During Harvey's recuperation, he's requesting hams send KE4VDP their QSLs to cheer him up and wish him a speedy recovery. Send cards to Dave Harvey, KE4VDP, 2850 Shiloh Way, Lithonia, GA 30058.

National Capital ARES Council Training Institute

The 2nd National Capital ARES Council Training Institute is scheduled for December 7, 1996, at the National Red Cross Headquarters in Merrifield, Virginia. If you are interested call the NCAC Marine Corps Marathon voice mail at 703-359-3414 and sign up for both.



Traffic Fun

By Geri Sweeny,
N4GHI

HELP

It's holiday time. We have before us Halloween, Thanksgiving, and Christmas. Traffic handlers just get busier and busier with the increased traffic flow. As many traffic handlers travel during these periods, we need every available amateur to check into nets and become both an outlet for incoming traffic, and a sub to help relay the traffic. October is a wonderful month to practice, so that you can be functional in November and December. While many messages are of standard ARRL numbered radiogram form (ARL Sixty and ARL Sixty One), many have unique messages that are interesting, creative... just fun to relay, and/or deliver.

DELIVERING A MESSAGE

Since phone numbers are not always accurate, I hate to leave them on an answering machine, when no name is given. And, yet, that's more and more the case. Thus, it's always good to try and verify the phone number (phone book and/or directory) first. I also try the answering machine several times, at different times and days, to see if it's a filter, or if the person just wasn't home, before I leave the message.

It's always nicer to get a live person. They can be problematical as well; not speak English, hard of hearing, etc. Having warned that it's not always easy; it's at least a challenge. It's generally very rewarding. Nine out of ten people tell you they are glad you called and appreciate the message. Many tell you that you have 'made their day' by delivering the message. What a fine reward for all the effort you may have put into it.

When a live person answers, you should state that you are an amateur radio operator and have a message for (whoever) from (whoever) in (wherever). The words "amateur radio operator with a message" seem to spark recognition similar to getting a telegram. You are often asked to explain a bit about the radio part, which is good PR. You often learn something interesting enough about the party that keeps you talking on some subject for a while. I generally ask if they want to send a return message; and, mention that it is free. I also ask them if they would like my phone number so that they can call and send a message at some future time.

Aside from the reward of knowing you have helped folks in your community, and spread good will for amateur radio; you can also earn points toward a certificate. You get a certificate from your Section Traffic Manager for originating four messages. Of course, you must let your Section Traffic Manager know. This is done by submitting a message to him/her each month telling them how much traffic you have handled (originated, received, sent, and delivered).

QUIZ

1) If you send a message from yourself to someone else, is it an origination? 2) What is the meaning of ARL Sixty? 3) What is the meaning of ARL Sixty one? Answers: 1) No. To count as an origination, there must be a third party; i.e, someone else. 2) "Wishing you the best of everything on_ 3) "Wishing you a very Merry Christmas and a Happy New Year"

GIVE A LISTEN TO YOUR SECTION LEVEL NETS.

VTN	(VaTfcNet)	1:00 pm	3907
MEPN	(MdEmerPhoneNet)	6:00 pm	3920
VSBN	(VaSidebandNet)	6:00 pm	3947
VNE	(VaNet - Early)	7:00pm	3680 CW
MSN	(Md Slow Net)	7:30 pm	3717 CW
VNL	(VaNet - Late)	10:00 pm	3680 CW
MDD	(MdDe)	10:00 pm	3943
VLN	(Va Late Net)	10:15 pm	3947



Elmer's Corner

By Paul E. Wilkins,
AB4CY

Can't It Sound better ?

The original sound reproduction was done with a stiff needle riding in a groove in a recording material. The needle vibrated back and forth at an audio rate according to the ripples in the groove in the record. The needle was connected to a mica disc that was mounted in the narrow end of a horn assembly. The mica disc vibrated by the needle pushed air in front of it (and behind it) to create sound waves. The horn was an acoustic matching network (transformer) that transformed the disc impedance to the impedance of a room to achieve some sound transfer efficiency.

When electrical sound transducers were developed they had a magnetically driven flexible cone that transformed the electrical signal into sound waves. That cone also moved back and forth creating sound waves in the front and the back.

To keep these two waves from interfering the "speaker" was placed on a baffle which was a large plate separating the front wave from the back wave. As the technology progressed there were a number of ways that were found to combine the front and back waves in phase to increase the sound level.

The "boom-Box" is a combination of the low frequency front and back waves for low frequencies only which greatly enhances the bass notes. These were originally developed for juke-boxes in dance halls. The bass-reflex was a design that combined a little larger range of frequencies and became popular in floor model radios for home use. Large horn-type speakers were developed for theater systems. These had a high acoustic efficiency and

a mid frequency range speaker might have only a 1 inch source disc but it could reproduce sound at a level of a full orchestra that filled the theater with 20 watts of power.

In the 1940's when you bought a Hallicrafters SX-28 Skyrider, it came with a 10 inch diameter speaker in a cabinet of about 1 cubic foot in volume. Listening to 160 meters was like listening to the AM broadcast band. These high end receivers of the 1940's and 50's came with push pull audio output stages with a good 10 watts output. They took the sound reproduction system seriously.

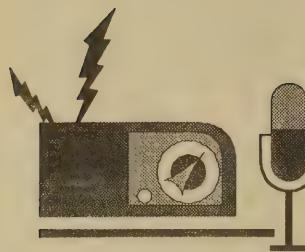
With the advent of miniaturization, everything had to be smaller size and minimal weight (not to mention lower cost). Today, our receivers have a 2.5 or 3 inch diameter speaker mounted in the top of the receiver cabinet which uses the unused volume inside the cabinet as a baffle. The acoustic efficiency is quite low and the sound quality is quite low although it's passed off as communications quality with lots of high frequencies and almost no lows. Last month's column commented on speech compressors. These tend to be effective at the lower frequencies and with the speaker designs current today a lot of the advantage is lost.

If you want an eye-opener, try plugging in an external speaker to your receiver that has some efficiency and hear the difference. Radio Shack sells a line of speakers 6 to 8 inches in diameter. If you mount one of these in a box about 10 inches cube, you'll see what I mean. The difference in sound quality will be astonishing. The old receiver won't sound the same.

The difference is even greater if you adapt a 12 inch diameter speaker in a reflex cabinet. It actually sounds great. Same receiver, same audio level, but what a difference. I guess it depends on what you like, the small compact size certainly has its advantages but there are some sacrifices using it.

Matching a sound source impedance is just like feeding an antenna. If the match isn't good there won't be much power transfer.

UPCOMING DX CONTESTS



DX DX DX

By John Kanode,
N4MM

California QSO Party	Oct 5-6
VK/ZL SSB Contest	Oct 5-6
RSGB 21/28 MHz SSB Contest	Oct 6
VK/ZL CW Contest	Oct 12-13
RSGB 21/28 MHz CW Contest	Oct 20
CQ WW DX SSB Contest	Oct 26-27

REINSTATEMENT OF AMATEUR RADIO IN THE UNION OF MYANMAR

Some time back, Amateur Radio in Myanmar was stopped due to internal problems. It now appears that Amateur Radio operation will soon resume in this country. Kan, JA1BK, Martti, OH2BH and Warren, KF7AY have been to Yangon and have met with government officials to finalize licensing and operating arrangements for an upcoming, large scale operation.

Plans for this upcoming operation have been well received by H.E. Lt. General Kyaw Ba and other key members of the State Law and Order Restoration Council, which has been most gracious in its support. More good news regarding future operations from Myanmar will be forthcoming soon. More info as available can be found at the XZIN Web Site, <http://www.getnet.com/^kf7ay/myanmar.html>.

As part of the meetings that were held, permission has been granted to conduct a limited operation using the call, XZIN. For several days in August, this station has been QRV on the bands. QSL requests for this operation go to Bob Myers, W1XT, PO Box 17108, Fountain Hills, AZ 85269-7108.

The DX community hopes that Amateur Radio will remain in Myanmar for the long term and that local citizens of this country will become interested in Amateur Radio and will be able to get licensed. A country that has an active Amateur Radio Service is more likely to support Amateur Radio at international telecommunication conferences.

TIDBITS

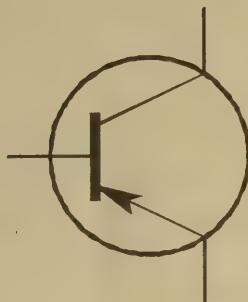
Dave, WJ20 will lead a team to Swaziland (3DA) for a DXpedition from October 25 to the 28th. They will participate as a multi operator entry in the CQ WW DX Contest. QSLs go to WJ20 with SASE or SAE and \$1, or to the QSL bureau. Dave will be in southern Africa from October 16 to November 1, operating as ZS/WJ20, with possible operation from V5 and A2.

The WA4DAN/CY0, Sable Island DXpedition is now scheduled for October 22-29, 1996, which includes the CQ WW DX Contest. Other operators for this operation are Ken, V73C/AH9C; Bob, KW2P; Atsi, VK2BEX and Ron, AA4VK. QSLs go to WA4DAN.

The Bulgarian National Amateur Radio Society BFRA is offering a special award to commemorate 70 years of Amateur Radio in Bulgaria. To earn the award, one must contact 70 different LZ stations during the time period of May 1, 1996 and December 31, 1996. Send a log extract and \$2.00 or 4 IRCs to BFRA Awards manager, PO Box 830, Sofia 1000, Bulgaria.

Jim, VK9NS is still working on his proposed DXpedition to the Andaman Islands. He seems to encounter one road block after another. I am hopeful that he will stick with it and be successful.

French Polynesia (FO) will be activated in October by the Lyon DX Gang. They will be operating from Rurutu Island during October 9 through the 14th and from Tubuai Island from October 14 through the 19th. QSL manager will be FSJJW.



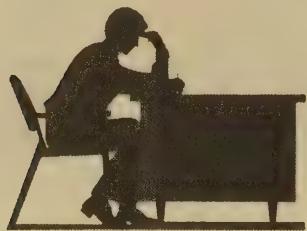
Amateur Radio Training

John Forrest WZ4A
6111 Burnett St., Alexandria, VA 22310
(703)971-3905

Please send announcements for training classes and club training contacts to WZ4A at the above address. Deadline is the 25th of the 2nd month prior to the *Auto Call* publication date (e.g., 25 December for the February issue).

Club Training Contacts

Alexandria RC	Rich Adamy KA4GFY	(703) 644-3920
Anne Arundel RC	Tony Young WA3YLO	(301) 262-1917
Arlington ARC	Mike Callaham NW3V	(703) 241-5618
Antietam Radio Assn.	Robert Long KD3JK	(301) 824-5132
BRATS (Baltimore)	Joe Chidester W3SHZ	(410) 602-0353
Baltimore ARC	Essex Community College	(410) 780-6854
Fauquier ARC	Neil Spokes AB4YK	(540) 364-3861
Frederick ARC	Hal Silverman W3HWC	(301) 831-7946
Herndon Rep't Gp	Michael Weber WB8RDN	(703) 450-2304
Laurel ARC	Pud Reaver W3DQI	(301) 498-6293
Madras	Larry Ziecheck	(301) 984-6113
MD Mobileers ARC	Bruce Colburn AA3KR	(410) 437-1891
Montgomery ARC	Rocky Jones KC4UXO	(301) 216-5210
Mt. Vernon ARC	John Forrest WZ4A	(703) 971-3905
NASA/Goddard ARC	Vikki Gigante KA3PVS	(301) 249-2609
Ole VA Hams ARC	Charles Dale WA4YGI	(703) 361-3091
Pentagon ARC	David Boyd K9MX	(540) 659-6241
St. Marys Co. ARC	Peter Butt WA3UMY	(301) 862-2214
Shenandoah Val ARC	Guy Black W4PSJ	(540) 722-4952
Southern MD ARC	Vic Curtis WA3YUV	(301) 888-1388
Southern Pax ARC	Dwayne Kincaid WD8OYG	(410) 586-2177
Stafford Adult Ed	Jerry Mullinix AC4HK	(540) 659-3905
Sterling Park ARC	Forrest Snyder N4UTY	(703) 430-4149
Tri-County ARC	John Creel WB3GXW	(301) 572-5124
Vienna Wireless	Paul Wilkins AB4CY	(703) 560-2779
Woodbridge Wireless	Jim Duffey WD4AIR	(703) 491-3170



Volunteer Examiner Cooperative

JOHN FORREST WZ4A

6111 Burnett St.

Alexandria, VA, 22310

(703) 971-3905

* Effective July 1, 1996, the Extra Class written exam question pool (Element 4B) will change. It is anticipated that the new question pool will be significantly different from the old pool. Be sure to use study materials appropriate for the current question pool.

* The maximum exam fee has been raised by the FCC to \$6.05.

* Copies of the complete (as of date) 1996 VEC Exam schedule from the *Auto Call* database are available. To obtain a copy, please send a large, self-addressed envelope with sufficient postage to cover 10 letter-size pages along with \$2.00 to cover copying costs to WZ4A at the above address.

* **ATTENTION VE's:** It's time to plan your 1997 test dates. 1997 dates will appear in Autocall soon. Also, copies of the 1997 AUTOCALL exam schedule will be distributed to local ham radio stores around the middle of December. Please send your 1997 information to WZ4A as soon as possible."

1996 Schedule of Examinations

October
6
(Sunday)

Landover, MD - D.C.M. ARC (W5YI VEC) Walk-In
Contact: Freddie Battle NG3G (202)546-9348 (Day)
(301)773-2898 (Evening)

October
12
(Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In
Contact: Frank Mackey N4GUS (703)455-1510
Note: Temporary location change. Call for directions.

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In
Contact: Bob Israel WC3I (301)262-5083

Cumberland, MD - Mountain ARC (Mount. ARC VEC) Walk-In
Contact: Leo Patterson KQ8E (304)289-3576,
Gay Rembold W3DFW (301)724-0674

Don't forget to bring your license when upgrading!!

**October
17
(Thursday)**

Towson, MD - Baltimore ARC (ARRL VEC)
Pre-Registration/Walk-In Requirements Unknown
Contact: HAM-TALK (410)426-8255

**October
19
(Saturday)**

**Laurel, MD - Laurel ARC (Laurel VEC) Pre-Registration Desirable,
Limited Walk-In**
Contact: John Creel WB3GXW
(301)572-5124 after 6 PM

**October
27
(Sunday)**

Hagerstown, MD - Antietam Radio Assn. (ARRL VEC)
Pre-Registration Requested - Some Walk-Ins Accepted
Contact: Bob Long KD3JK (301)824-5132 Evenings Before 9PM

**October
29
(Tuesday)**

Annapolis, MD - Maryland Mobileers ARC (Laurel VEC)
Pre-Registration Requested, Limited Walk-In Contact: Lois Turner
KA3VVQ (410)647-4178

**November
3
(Sunday)**

Elkins, WV (Mountain ARC VEC) Walk-In Contact:
Walter Corley KF8SX (304)637-0506

Landover, MD - D.C.M. ARC (ARRL VEC) Walk-In
Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898
(Evening)

**November
9
(Saturday)**

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank
Mackey N4GUS (703)455-1510
Note: Temporary location change. Call for directions.

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC)
Walk-In
Contact: Bob Israel WC3I (301)262-5083

**November
16
(Saturday)**

Laurel, MD - Laurel ARC (Laurel VEC)
Pre-Registration Desirable, Limited Walk-In
Contact: John Creel WB3GXW (301)572-5124 after 6 PM

Don't forget to bring your license when upgrading!!

**November
23
(Saturday)**

Fredericksburg, VA - Fredericksburg VE Team/Stafford ARA (ARRL VEC) Walk-In. Contact: Carolyn Cavanagh AC4SK (540)373-7076. Jim McCloud N4LZJ (540)786-8012

Manassas, VA - Old VA Hams (ARRL VEC) Walk-In Contact: Harry Vorhauer W4PVA (703)368-6050

**November
26
(Tuesday)**

Glen Burnie, MD - Maryland Mobileers ARC (Laurel VEC) Pre-Registration Requested, Limited Walk-In Contact: Jerry Gavin NU3D (410)761-1423

**December
1
(Sunday)**

Landover, MD - D.C.M. ARC (W5YI VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) 301)773-2898 (Evening)

**December
14
(Saturday)**

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank Mackey N4GUS (703)455-1510
Note: Temporary location change. Call for directions.

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In Contact: Bob Israel WC3I (301)262-5083

Cumberland, MD - Mountain ARC (Mount. ARC VEC) Walk-In Contact: Leo Patterson KQ8E (304)289-3576
Gay Rembold W3DFW (301)724-0674

**December
19
(Thursday)**

Towson, MD - Baltimore ARC (ARRL VEC) Pre-Registration/Walk-In Requirements Unknown Contact: HAM-TALK (410)426-8255

**January
5
(Sunday)**

Landover, MD - D.C.M. ARC (ARRL VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898 (Evening)

- Remember to bring your license when upgrading! -

January
11
(Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank
Mackey N4GUS (703)455-1510

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC)
Walk-In
Contact: Bob Israel WC3I (301)262-5083

-TRAINING CLASSES -

NOVICE/TECHNICIAN COURSE: The Mount Vernon Amateur Radio Club will present an entry-level amateur radio training course to prepare students for the Novice and/or Technician class license exams. Morse code instruction will be available. The course will meet in Alexandria, VA from 7:30 to 9:30 PM on Wednesday evenings starting in mid-September. Dates and location to be announced later. There is no charge for the course; however, students will be required to provide their own study materials at a cost of approximately \$25. Contact John Forrest, WZ4A at (703)971-3905 for more information and to sign up.

NOVICE/TECHNICIAN COURSE: The Montgomery Amateur Radio Club will present an entry level amateur radio course to prepare students for the Novice and/or Technician class license exams. The course will include Morse code instruction. The course will meet at Gaithersburg High School on each Tuesday and Thursday in October. Exams will be given on October 31. Contact Rocky Jones KC4UXO at (301) 216-5210 for more information and to sign up.

NOVICE/TECHNICIAN COURSE: The Laurel Amateur Radio Club will present an entry level amateur radio training course beginning Monday, Sept 23, at 7 P.M., running for approximately ten weeks. The course will meet at the West Laurel Recreation Building. There is no charge for the course, but a text will be recommended; Morse Code will not be offered, but training will be made available, if there is interest. Exams will be given on the final Monday. For more information, and to register, contact Pud Reaver, W3DQI, (301) 498-6293.

GENERAL/ADVANCED CLASS UPGRADE COURSE: The Mount Vernon Amateur Radio Club will present an upgrade course for the General class license and, if sufficient interest is expressed, the Advanced class license. Morse code training will be offered. The course will meet in Alexandria, VA from 7:30 to 9:30 PM on Wednesday evenings starting in mid-January 1997. Starting date and location to be announced later. There is no charge for the course; however, students will be required to provide their own license manuals and study materials. Contact John Forrest, WZ4A at (703)971-3905 for more information and to sign up.

Silent Key William Parrott - W4URL

William Parrott - W4URL became a Silent Key on August 18 after a long bout with heart trouble. He was 94 years old. Bill originated the Foundation's Widow's Assistance program in January of 1971 and carried out the program almost single handedly for the next 20 years. He built his first radio equipment at the age of 10 and Amateur Radio continued to be a major focus for the rest of his life. He was keeping daily schedules on the air until just a few weeks before his death. Bill attended Columbia University and George Washington University

to attain his Electrical Engineering degree, then worked for the C&P Telephone Company for 30 years - with time out to serve in the Navy during WW-II, where he attained the rank of Commander. He was also very active in the Columbia Baptist Church. He is survived by his Ruth, who is now making serious plans to get her own license and keep Bill's radio on the air. Bill's dedication will long be remembered by those who met him at the Widow's Assistance table at Gaithersburg and other area hamfests.

In the next issue of Auto Call...

The 1996 Foundation for Amateur Radio, Inc. Scholarship Awards

The FOUNDATION FOR AMATEUR RADIO, INC. Is pleased to announce the 1996 winners for the fifty six (56) scholarships which it administers.. The names of the recipients for the individual awards will appear in the November issue of *Auto Call*.

These scholarships were open to all licensed Radio Amateurs meeting the qualifications and residence requirements of the various sponsors. The FOUNDATION is a non-profit organization incorporated in the District of Columbia, representing more than seventy-five clubs in Maryland, the District of Columbia and Northern Virginia. It is devoted exclusively to the scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service,

Announcement of our 1997 awards will appear in the January or February issues of the major Amateur Radio publications and selected radio club newsletters.

FAR Scholarships
6903 Rhode Island Avenue
College Park, MD 20740

• • • ANNOUNCING • • •

CLEAR, CRISP, & STRONG REPEAT AUDIO!

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- ARE YOU TIRED OF LISTENING TO USER SQUELCH TAILS? GET RID OF THEM WITH OUR C3I-1000D, AUDIO DELAY MODULE.
- SOON-TO-BE-RELEASED: THE C3I-1000DVR, DIGITAL VOICE RECORDER; AND, OUR C3I-1000SQ, SIGNAL QUALITY VERIFIER. DETAILS WILL FOLLOW.
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(703) 684-6980 OFFICE, (703) 684-1382 FAX

Owen Wormser, K6LEW

Sam Ruffin, KM4OI

The Columbia Amateur Radio Association

Presents its 20th Annual

CARA HAMFEST



Sunday October 13, 1996 8:00 AM to 3:30 PM
Howard County Fairgrounds

* Computers - Amateur Radio - Electronics *

Amateur Exams will be given at no charge
Hospitality Area - Bring the Family

40,000 Sq. Ft. of Indoor Display Area
Large Outdoor Tailgating Area
Covered Areas for Inclement Weather
Great food and Refreshments On Site
Many Dealers - Computers & Ham Radio

Proceeds will benefit CARA Scholarship, Amateur Classes and Repeater System
(Including Open Autopatch)

Talk In: 146.52 Simplex, 147.135/735 Repeater, 222.32/92 Repeater

Howard County Fairgrounds Directions

To Frederick Interstate 70

To I-695
(11 miles)

Fairground

Parking

To Rt 97

Route 144

1 mile

Route 32

N

Admission Donation: \$5.00 per person
Unlicensed Spouse and Children free!

Tailgating Donation: \$10.00 per space
(Includes one General Admission per space)
Tailgating spaces will be available on a first
come first serve basis the day of the Hamfest

Table Donation: 1-4 \$20.00 ea.
5 or more \$18.00.
(Includes one General Admission per table)

Call (410) 964-4378 for Table reservations.
To guarantee your space send your check now!

For Hamfest information write or call:

CARA Hamfest Committee P.O. Box 911 Columbia, MD 21044

* After Sept. 20th, please phone prior to mailing *

7th Annual

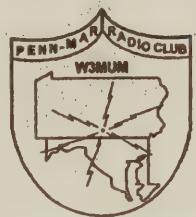
Mason-Dixon

Computer & Hamfest

Sunday - October 27, 1996



Carroll County Ag Center
Westminster, MD



Admission

- General - \$5.00 (children under 12 free)
- Tailgating - \$5 per 12' space
- 6:00 AM Vendor and tailgating setup
- 8:00 AM General Admission

Inside Tables

- \$15 per 8' table
- \$12 if *prepaid* by 10/12/96
- MD State law requires Vendors to collect Sales Tax

Advance Table Registration (Reserved Tables MUST be PREPAID)

- Mail to:
Mason-Dixon Computer & Hamfest
P.O. Box 763
Hanover, PA 17331
- Or call:
George Johns, N3JKY
(717) 632-1621

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VE Exams - Preregistration Requested

- Mail to:
Bill Wolfgang, NZ3J
9 Kensington Drive
Littlestown, PA 17340
- or call:
Bill Wolfgang, NZ3J - (717) 359-7090
Pat Stump, WW3U - (717) 632-4237

On-Site Registration

- At the Carroll County EOC
(across from Kate Wagner Road)
- Begins promptly at 8:00 AM
- No admittance after 9:00 AM

Required for VE Exam

- Original FCC license plus one copy
- Two forms of ID (one w/ photo)
- Any CSCE's
- Exam fee, \$6.05 cash only

Talk-in: CCARC Repeater 145.410 MHz.

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**Anne
Arundel
Radio Club**

Meetings: 8 PM 1st and 3rd Thursdays, Davidsonville Family Recreation Center, Queen Anne Bridge & Wayson Roads off MD Rt. 214 near Annapolis.

On the air: 2030 Thursdays when there is no club meeting on 147.705/105. Tuesdays at 2030 local time on 28.410. Wednesdays at 2000 on 444.400. The Chesapeake Weather & Traffic Net on 147.705/105 at 1100 and 1500 every weekend day and public holiday from April 1 to November 15. MSN (Maryland Slow Net) every evening at 1930 on 3.7170 MHz.

Address: P.O. Box 308, Davidsonville, MD 21035.

Information: Margaret (Holly) Bevan, 410-923-0229.

AARC members were pleasantly surprised by the appearance of Hugh Turnbull/W3ABC, now Vice-President of ARRL, at the August 1st club meeting. He came to present to Jerry Herman/N3BDW a plaque of the cover of the May 1996 issue of QST. An article co-authored by Jerry was judged to be the best article in that issue.

Jerry, net manager of the Hurricane Watch Net, and Rick Palm/K1CE wrote "Ill Winds Blow" which reviewed the 1995 Hurricane Season. The article discusses the effects of the various hurricanes which occurred during the 1995 season and the work of some of the major net operations, with some first-person accounts by hams involved in the nets. The interesting and informative article begins on page 30 of the May 1996 QST.

At the August 15th program meeting Norman Chipp/N3RZU gave an interesting program on the use of QRP. He also displayed some of his home-brew equipment made from "scavenged" odds and ends.

About ten AARC members reported bright and early to the NavyMarine Corps Stadium on Sunday morning August 25th to handle communications for the annual Annapolis 10-mile run sponsored by the Annapolis Striders. Coordinator David Evartt/N6TAU reported that all went well.

At the Clubhouse on August 10th, Robert Israel/WC3I, Charles Tiemeyer/W3RMD and Oscar Ramsey/NV3G gave 10 tests to 6 persons. Four tests were passed with 2 upgrades. Other members of the team were Harlan Ray,III/AA3FE, Robert Rose/AA3HN, Robert Kammer/N3POX, Bettye Tiemeyer/ K3VRZ and Holly Bevan/N3BMB. The next testing session at the clubhouse will be on October 12th.

Congratulations to Ed Robertson/KE3XG (formerly N3UKH) who is now Advanced and to Wm (Bill) Riley/N3SNU who has made General.

73, Holly/N3BMB



**Carroll County
Amateur Radio
Emergency Team
& Radio Club**

Address: Carroll County Amateur Radio Club P.O. Box 2099, Westminster, MD 21158.

Repeaters: 2M: 145.410-, 70cm: 449.875, 6M: 53.090.

BBS: 145.03 & 446.075.

Nets: Tuesdays 8:30 p.m. local CARET Net 145.410-. First Wednesday: 8:00 p.m. local, Mason Dixon Swap Net 145.410-.

Club Meetings: Business meeting Second Monday of the month at the EOC in Westminster. 7:30 p.m. local, talk-in: 145.410- Program meeting: Last Wednesday of the month at the EOC in Westminster. 7:30 p.m. local, talk-in: 145.410-.

President Report: Summer is almost over. It seems like June was just yesterday. October is next month, and that means that it is time to start

thinking about our Hamfest. Not only do we need everyone to circle on your calendars - Sunday, October 27; it is time for you to consider taking the duties on the Hamfest committee. Now is the time to get with Bob N3MYJ, Frank K3MTT, and Larry WX3F to learn what is needed to have a successful hamfest.

The hidden transmitter (FOX) hunt was a lot of fun. Thanks to Fred K3TAZ, the "automated" Fox proved to be a good challenge to all that participated in the hunt. It was nice to see the equipment that Phil KE3FL and Tony N3MYJ had used on the hunt. We all had a good time. Having learned about the various techniques and equipment used on a hidden transmitter hunt, everyone agreed that we should do it again. When? The Westminster Fallfest is Saturday and Sunday, September 28 and 29. The CCARC has a spot again this year for an information booth. This is a very easy, relaxing, and fun event. All you need to do is stand at the booth and provide information about your Club to the many people that stop by. The sights, sounds and smells are quite interesting. If you love a carnival atmosphere, this is the event for you. Volunteer a couple of hours at the booth while your family is having fun at the carnival.

The Simulated Emergency Test (SET) is on Saturday, October 12th. This is a good time to practice emergency communication and operation. Listen to the CARET net to get further details.

The RACES drills start in September. Would anyone be interested in activating the radio station at the EOC for these drills? The drills are once a month, for one hour on Tuesday nights at 7:30 PM. Let me know if you are interested. I will teach you everything you will need to know.

I would like to see the Club participate in the November Sweepstakes. Both the CW and SSB weekends. The rules are such that Club members are permitted to use and operate from their home stations. November 2-3 for CW, and November 16-17 for SSB. Let me know!

Then it's December! 73 de WX3F



Columbia Amateur Radio Association

Club meeting: 4th Tuesday of the month at 7:30 p.m., at the Bethany United Methodist Church, Bethany Lane, Ellicott City.

Net: 147.135 repeater at 8:30 p.m. each Tuesday except for meeting nights.

Repeaters: 147.735/147.135 (cross-linked to 222.32/223.92); 147.990/147.390 (direct dial 911); 222.32/223.92 (cross-linked to 147.735/147.135); and 443.275/448.275.

Information: Larry Russo, Pres - K3TFU, (301)725-2840.

Mailing: P.O. Box 911, Columbia, MD 21044

Our August meeting featured presentations on ARES and RACES by Al Nollmeyer W3YVQ, and CARA member Mike Carr-WA1QAA. Al is Asst. Section Manager for RACES Coordination for the Maryland/DC area, and Mike is Section Emergency Coordinator for MDC. Al focused on the present and future roles of ARES and RACES in the world of satellite, digital and other sophisticated methods of communications, and FEMA, federal emergency response plans and other recent developments in the area of emergency/disaster response. Mike devoted his talk to acquiring and maintaining the skills needed to be an effective member of RACES and ARES.

The Maryland QSO Party went well. No final results yet.

The WA3WZA club packet system is up and running at the QTH of Bink-W3NNM. It will be moved to EOC at the George Howard Building (Howard County Govt Complex) when the antennas have been checked. Bulletins are being received from all over the world. Connect direct or via WA3STY and enjoy the BBS.

The CARA Hamfest is set for Oct. 13, at the Howard County Fair Grounds. Volunteers are still

needed for parking, ticket sales, set-up, talk-in, to name a few. Call Dick at 410-531-2933 if you can help out.

Last but not least, congratulations are in order to our president, Larry-K3TFU, and his new bride Mary. The happy couple tied the knot on August 16.

73's, Jean Williams-KB3AOT



Fauquier Amateur Radio Association

Meeting: 7:30 p.m., 2nd Tuesday of the month except July, August and December. Shadow Lawn Recreation Center, Warrenton VA.

Breakfast: Last Saturday of the month at Western Sizzlin Warrenton VA 7:30 - 9:00 a.m.

Net: Every Wednesday, 9:00 p.m., 147.165 Mhz NZ4N Repeater.

Packet: KE4YVU FARA7 node 145.070 Mhz with direct connect to FBBS9

FBBS9 Bulletin Board 145.090 Mhz,
FARA9 node 145.090 Mhz.

Repeater: NZ4N/R 147.165 Mhz (+.600 Mhz)

Newsletter: TOROID, Monthly. Deadline for submissions: 20th of the month.

Information: Don, WY2V, (540)347-5745 or Larry, K4LLQ (540)347-7609. FARA, PO Box 752, Warrenton VA 20186.

Next meeting: Oct. 8.

Chuck had a bit of a crisis with the BBS in late August. A power surge knocked out the BBS hard-drive, and the backup. Chuck spent a lot of time rebuilding it, but is now up, new and improved, and forwarding better than ever before. (He switched to the F6FBB Version 5 software for those that worry about such things).

The new repeater antenna seems to be working really well. We've been getting good signal reports all over the DC/Northern VA area, and in MD too. Our Secretary, Woody, resigned recently. The

duties of the club newsletter and meeting minutes will now fall on some unsuspecting soul who forgets to show up at the September meeting and defend him/herself! Woody has an extended trip to Florida due to work and didn't think he'd be able to carry out the office very well from down there. We hope he gets back soon.

The ARES members supported the Annual Therapeutic Ride-a-thon again this year. Several of us provided communications for the event in August. Don was dual-hatted working both as Net-Control and as our rep to the Simulated Emergency Test which was happening at the same time. He shared the duties well! The ride-a-thon ended with a serious incident involving a run-away golf-cart and a picnic table full of people. The club auto-patch did it's duty and summoned the 911 folks very quickly. I hope the injured folks are recovering well.

73, Mark, KD6AKC



Green Mountain Repeater Association

Meetings: Board of Directors, Last Monday of each month.

Repeaters: KD3VR-146.61 (Cheverly), K3GXF-146.88 (Greenbelt).

Luncheon: First Saturday of each month at the Fountain Cafe, in the Laurel Shopping Center Mall, US Route 1 (Baltimore Ave.) and Cherry Lane. Starts at 11:30 AM. Monitor 146.88 for Talk-In.

Nets: Old Gents Net meets on 146.88 each day at 9:30 A.M. and 6:30 P.M. Washington Adventist Amateur Radio Association Net meets on 146.88 each Thursday at 9:30 P.M.

Mail: P.O. Box 523, Bowie, MD 20718-0523.

Information: John Williams, N5SJZ, (301) 805-5761.

GMRA had a good turnout of members and guests at the Saturday, August 3rd monthly

luncheon. Considering it is still vacation time, there were approximately twenty-five in attendance.

The monthly Board of Director's meeting was held on Monday, July 31, at the home of Paul, W3HFA and Phyllis, N3JAA. This was a very productive meeting as most are. Thanks to Paul and Phyllis for their gracious hospitality and the fine refreshments.

Since the new antennas have been installed at the 146.88 and the 146.61 repeaters, we have good reports from many members operating from fringe areas that were not able to before.

The next big endeavor on the GMRA agenda, is the installation of the newer solid state repeaters. Paul, W3HFA has volunteered to make bases for the new units and Joe, KD3VR, the president of GMRA is checking the units to make sure everything is ready.

Try to make our next Saturday luncheon at the Laurel Center Shopping Mall. Also, remember the FAR-FEST on September 8th at Gaithersburg.

73s from Ken Easton, N3HLY

The Herndon Repeater Group

On-the-air meeting: Mondays at 9:00 pm on the Herndon repeater.

Repeater: N4FSC, 145.310 (Herndon)

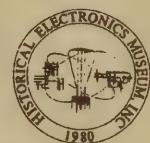
Mailing: Herndon Repeater Group, P.O. Box 5073, Herndon, VA 22070-1964.

Information: Mike N4FXP, (703) 406-3158.

The Herndon Repeater Group (HRG) is a family-oriented ham radio club affiliated with the N4FSC repeater in Herndon, VA. Membership is open to all, and the club holds several social and operating events each year. Dues are \$20/yr for your entire family; members have access to the

repeater's autopatch. All area hams are warmly invited to join our information net on Monday evenings at 9:00 pm.

73 de Mike, N4PDY



Historical Electronics Museum Amateur Radio Club

Meetings: Second Wednesday of each month, 5:30 PM, In the Historical Electronics Museum, West Nursery Road and Elkridge Landing Roads, Linthicum, Maryland (Next to BWI Marriott Hotel).

Net: Monday 8:00 PM, 146.67(-)/224.24(-) MHz (courtesy of BARC).

Information: Gary Ryan, (410) 969-0410.

Mail: P.O. Box 746, Mail Stop 4015, Baltimore, MD 21203.

Street address: 1745 W. Nursery Rd., Linthicum, MD 21090.

The TBL-13 Project

AM Modulator - Charlie Angel, AA3FB has completed the refurbishing, cabling and integration. Tone testing into the dummy load and readjusting the voltages has resulted in a measured 30% modulation thus far. Next week on the air testing will begin. It appears that we are almost there!

Chirp/Hum - Ernie Farkas, K3CBW reported that the so called hum appears to be a low frequency beat of some kind. It is considerably lower than 60 Hz. The effort to track it down continues. The level is such that perception is minor on the air, but this will be checked more thoroughly. The BC-610 Project.

The recently donated WW2 US Army Transmitter BC-610E has been superficially assessed. The most obvious problem noted was

that the final plate tank coil had suffered arc damage. If anyone knows the location of a good replacement coil (or any other BC-610 parts) please call Ernie Farkas, K3CBW [410-747-1377.] Volunteers for this project are also needed.

The 2M and 70CM band letter writing campaign was discussed. Polite and well reasoned letters are still needed and all hams that have not sent in their letters are urged to do so now.

Mike Carr, WA1QAA reminded us that the Simulated Emergency Test weekend was coming up on this October 12. Volunteers are needed at all skill and interest levels. If you are not sure, come out and observe the fun. If you would like to listen in to some of the traffic listen: October 12 from 9AM to 4PM on: 3.920 MHz-SSB, 3.643 MHz -CW or 3.717 Slow CW. (These nets also meet daily at 6PM, 7PM and 7:30PM respectively) Low Sunspot Special Program.

With DX on the upper end of the HF spectrum presently at a low point, we turn our attention to some fine DX opportunities at the low end. Loop antennas up in the trees are snagging a lot of DX on 80M, 40M and even 160M. These wire antennas have noise advantages and a lot of hams are even working respectable DX QRP.

John Kohl, KO4A gave HEMARC an excellent presentation on loop antennas and how to get them up in the trees and on towers. John stressed the safety aspect of putting wires high up with demonstration of the simple but effective equipment required to stay out of the hospital and still have high wire antennas. We even brushed up on checking climbing belts. Construction techniques were also covered as well as suitable string, rope and wire for years of success. The timely and practical presentation was much appreciated.

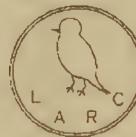
Still Need Help: Pre-WW2 DXCC QSL Cards

HEMARC is trying to set up a display of at least 100 pre WW2 DXCC QSL cards. All cards

loaned will be protected and returned to the owner after display. Contact Rol Anders, K3RA at 410-796-4792 if you have any of these cards. Or mail to Rol at: 6021 Old Lawyers Hill Road, Elkridge, MD 21227.

Please note that the club meeting date has been permanently changed to the second Wednesday of every month.

73 de Chip, W4PBG



Laurel Amateur Radio Club

A Volunteer Examiner Coordinator

Meetings: 4th Wednesday of each month (except November & December) 7:30pm at 384 Main Street, Laurel Md.

Social: 2nd Wednesday of each month, except December (Call for directions).

Nets: 1st & 3rd & 5th Wednesdays, 8:30pm, on 147.225+, no tone.

Mail: P. O. Box 3039, Laurel, MD 20709-0039

Exams: 3rd Saturday of each month, to pre-register contact: John/WB3GXW (301) 572-5124 after 6 P.M.

Information: Jim/WI3N (301)725-6829 or Pud/W3DQI (301)498-6293.

COAST TO COAST

My thanks to Pud/W3DQI for submitting the club report during my absence this summer, as I bicycled across the US. I had a great trip and talked to quite a few hams on 2 meters. All the hams were interested in the bicycle trip...and some even saw my group on the road. However, a very special QSO occurred as I sat on a picnic table at a camp ground in Leavenworth, WA, and talked on 2M via a local repeater to a Bill/KI7AO, a former LARC member now residing in Cle Elum, WA. Bill "patched" me through on his HF rig to several LARC members back home: Jim/WI3N, Pud/W3DQI and Russ/N3AUQ. Russ, at the time, was traveling in Minnesota! It was great!

SEPTEMBER ACTIVITIES

The LARC VE team conducted an exam session at the FarFest (Gaithersburg) and also, several other members helped out at the admissions gate. Others set up a table and were able to sell various items, including the "screen saver" developed by Mike/WB3HUP.

On 28 Sep, several members will be providing communications for the Pallotti Invitational Run at Supplee Lane Park on Brooklyn Bridge Road. This annual High School cross country event has been supported by the LARC for a number of years.

On 23 Sep, the LARC instructional team will begin a new Novice/Tech class at the West Laurel Recreational Center on Brooklyn Bridge Road. Call Pud/W3DQI, 301-498-6293 if interested. All are welcomed! ARES/RACES

Dick/N3MJA, Mike/WB3HUP and Jim/WI3N have been meeting with PG county ARES personnel to learn more about getting LARC members involved with the local ARES/RACES activities. Several members are already involved with the MEPN and other NTS activities now.

MD QSO PARTY

Kevin/W3DAD, Michele/WK3X, Roger/N3MIJ, Jim/WI3N and Pud/W3DQI participated in the MD QSO Party in August and operated the club station, WB3BLK. It looks like the team may have set a new record score for the contest!

We're waiting to see the final results...and so far....it's looking pretty good! Also, Mike/WB3HUP, a perinnial winner in the mobile category, set a record score for a mobile operation. Mike has won eleven state QSO parties as a mobile operator!

EXAMS

The next Laurel VE exam session will be on Saturday, 21 September, at 384 Main Street, Laurel. Testing/registration begins at 0900 hours.



The Maryland Apple Dumpling Radio Amateur Society, Inc.

Meetings: 2nd and 4th Thursdays - 7:00 P.M.

NBC Building - WKYS Conference Room, 4001 Nebraska Avenue, Washington, DC.

Nets: 1st and 3rd Thursdays at 9:00 P.M. on 145.45 MHz (PL-5A).

Repeaters: 444.100/449.100 MHz (PL-2A), 145.45/144.85 MHz (PL-5A).

WWW Address: <http://mvhsl.mbhhs.edu/~fwright/MADRAS.html>

Mailing: P. O. Box 2468, Wheaton, MD 20902

Information: Larry Ziecheck - N3GKZ (301) 984-6113, Jean Blacik N3PLC (301) 984-6113.

Now that summer has come to an end we hope to find more of our members joining us on the Thursday Nite Net at 9:00 P.M. We have missed a lot of our regulars who were either vacationing in exotic places or traveling on business trips. All are welcome to participate at any time.

Our End of Summer Dinner which was held at the Far East Restaurant in Rockville, Maryland on Thursday, August 22nd was a smashing success.

About half of our club members were present, along with their spouses and significant others. The food at the Far East is excellent and that coupled with pleasant dining companions made for a most e-enjoyable evening.

Thanks to all of you who have sent in your membership dues for the 1996-1997 season. We really have appreciated your prompt response and hope to see more dues coming in from those members who have not as yet returned their dues and questionnaires.

Michele - WK3X is busy trying to line up interesting and informative speakers for our twice monthly meetings. If anyone has any suggestions

they would like to make for speakers please give her a call.

October is election month and we will be voting on new officers and board members for the 1996-1997 season. Start thinking about who you would like to nominate for the coming year. After elections we will be sending our new membership cards and auto patch access codes.

Larry - N3GKZ will be vacationing in Spain and England this month, along with his wife, Shirely, and two long-time friends. They plan on visiting with Hani - AA3EI, who is temporarily based in England with his work place.

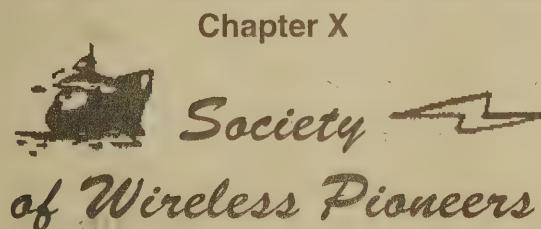
Hani has been a long-time member of the club and we really miss his absence from the meetings. We are looking forward to his return to the States although he is thoroughly enjoying his stay abroad.

It has been a busy summer for MADRAS members and we want to thank everyone who has participated in all the events that were held; i.e., Field Day '96, Annual Picnic and Barbecue and our End of Summer Dinner.

Looking forward to seeing you on the second and fourth Thursday of the month.

HAPPY HALLOWEEN

73'3 Jean-N3PLC



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(703) 536-9537



The Maryland Mobileers Amateur Radio Club

Meetings: First Friday of each month at the AA Co. EOC, Crownsville State Hospital grounds Crownsville, Md.

Repeaters: WA3PJQ - 146.805 & 449.125 both in Millersville, Md. W3VPR - 442.3 in Annapolis - Joint usage AARC.

Social Breakfasts: 15 days (3 Saturdays) after club mtg, at Rick's Cafe in Odenton at 9 AM.

Mailing: MMARC, P.O. Box 935, Severn, Md. 21144

Nets: 2-Meter on 146.805 @20:30 local time every Monday, 10-Meter CW practice net @19:00 Monday on 28.230 MHz.

Information: H. John Kohl, KO4A, (President) 410-757-8148. Bill Ziegler KA6TYY (410) 987-2384.

Greetings to all from the Mobileers! The August meeting was few in numbers, as the summer vacation blues seemed to have taken our membership away, however the presentation that Dan, K2YWE, gave on Intelligent Transportation and Traffic Control Systems was outstanding. Dan explained and demonstrated how by using detectors on the freeways and a packet pager type of radio, a small passive receive only system, could display your commuting route and show you the speed of the traffic. This in turn would allow you to decide which routes to take home to avoid traffic slow downs. He had several display units at the meeting and many of us wished the DC/Baltimore Metro area had this system to allow us to avoid slow/stop traffic areas. Thanks Dan for taking the time to broaden our amateur minds!! It also gives us pride to know fellow hams are leading the edge of technology in their day-to-day jobs.

This month will be election month for the MMARC. I will post in November's Issue of Auto Call who the new MMARC Officers are. I wish to thank this years officers. They have put in a lot of

time and hard work to keep the club running. They are:

John Kohl - KO4A - President
Brian Fitzpatrick - N3QXW - Vice President
Harold Nichols - WB4OGP - Treasurer
Jim Botluk - KD3SI - Secretary
Russ Slye - N3DDX - Director

This is a good time to remind readers out there that are not a member of any club, to join one and get involved. No, it doesn't have to be the MMARC!! Just join one in your area and help support Amateur Radio. Help give back to a hobby that gives so much.

A trend that I as well as most active hams keep noticing is the lack of new Amateurs to get involved in a club. Of, course most people don't mind using the repeaters. Which is fine, but if you enjoy the use of a repeater constantly, that would be a good place to start a little support. And I don't just mean pay the dues and never show up for a meeting.

There is a lot more involved to being a amateur radio operator than talking on a repeater. Volunteer to support several club events. There are so many ways to do this. I help support the MMARC by being the club's newsletter editor. I can do all of this from the comfort of my own home and computer! This lack of support is a big problem in the Amateur Radio World and we will loose frequency spectrum if we don't stick together and show Uncle Sam that we need all the spectrum we have. So, don't be shy, get involved. Auto Call is a great place to shop for Ham Clubs.

With that I will sign, as the days are getting shorter and I want to catch some sunshine before it disappears until next spring.

Please note our club meeting, breakfast and net times. We would be happy to meet you and share some good "Ham Stories"!! Don't hesitate to use our repeater if you are in our area.

73, Bill, KA6TYY



**Metrovision
Amateur TV Club**
Fast Scan Color ATV

Meetings: Quarterly: Time and place TBD.

Repeater: WA9GVK/4 (video/audio) Input: 425-431 Mhz. Output: 438-444 Mhz. Accessible 144.970 Simplex FM Voice.

On-the-air: Sundays and Wed. 8:00 P.M.

Mailing: Metrovision, Inc., P.O. Box 8231, Falls Church, Va., 22041.

Information: Sam - N3GHY (301 430-3373)

Jim - KA4CKI (703494-342)

Tom - KO4OX (540-752-2100)

Rich - KA3BTD (301-843-1253)

As I stated in a couple of Auto Call articles that you could receive us on cable channel 60 on your cable ready TV. Well Tom - WA3TAI notified us he gave it a try and is able to see us with a P5 picture on his cable ready TV set. Well done Tom. In late August the ATV signals seemed to improve quite a bit. The 900 MHz signal was coming into my QTH in Waldorf, Md., with excellent color. Skeeter - WA3UDY also had a very good picture into the repeater, the best in quite a while. A few of our club members have been out of town due to vacations and or business trips. I should think by October the nets will be back in full force.

The Internet is full of great ATV articles and pictures. Our club will have an Internet home page in the near future as my son Rick - KB8SPV in Berea, Ohio will donate the Web space and do the set up. Both of us have a lot of neat ideas. The 1996 ARRL handbook, chapter 12, pages 12.46 thru 12.53 gives an excellent overview of Amateur TV. The chapter shows some ATV equipment and explains quite a bit about the technical aspects. It is worth reading.

There has been a quite a bit of improvement with the some of the packet interference do to our meeting with the D-MARK committee. It just goes

to show you that understanding and cooperation on the ham bands can go a long way. If you have an ATV receiver, cable ready TV or cable box handy give us a peep on cable channel 60 with an outside antenna.

I'll be seeing you. 73's Rich - KA3BTD



The Mid-Atlantic DX and Repeater Association

Meetings: Second Thursday of each month, rotating locations among Hagerstown MD, Frederick MD, Martinsburg WV and Greencastle PA.

Net: Tuesday evenings at 1930 local on 147.06.

Tech/Ops Forum: Wednesdays at 2030 local on 147.06.

Repeaters: Frederick MD: 147.06, 224.20, 448.125; Martinsburg WV: 147.345.

Mailing: 230 North Potomac St., Suite 2A, Hagerstown MD 21740

Information: Voice BBS 301-416-8447 (info Box 112) LandLine BBS (301) 416-8435

At last, the long, hot summer (which wasn't really that hot) is over. As we slowed down from the pace of August and September, it was with some sense of relief that we looked back on the last two months. The MADRA HamFest, SWEATFEST96, took place at RailRoad Square in downtown Brunswick, Maryland. The planned date of July 28 was changed when we learned that BRATS had decided to re-occupy the old date they'd used. We gave up that competition without a fight.

So there we were, occupying RailRoad Square on Sunday, August 25 and ready for a cast of thousands. We had some stalwart veterans to be mentioned in dispatches: Mike WB8VBW, Joyce KA8QVM, Andre N3VXL, Chris N3TIK, Jim N3QHA, Bob N3TXB, Dee N3VCF, Elaine N3TFN, Scott N3MWX, Rick KB8VFC, Wally

W3HSO, Bil N2CF, Jim WA3FUJ, Tim N3VNG, Curt KE3VM.

Those were the MADRA members and supporters who worked long and hard to make SWEATFEST96 a success. If any were missed in that table blame it on N2CSQ. In addition we must recognize the support we got from the City of Brunswick. In particular Glenn Isette of Public Works, City Administrator Rick Weldon, Councilman Brent Bell and Special Events Coordinator Geri Reynolds loaned a lot of their time, effort and equipment to make our event a success.

The Brunswick RailRoad Museum and most local businesses opened early so we had that "something special" in antiques, arts and crafts to offer in addition to the usual HamFest vendors. Local businessmen Bill Sims, John Donoghue and Mike Heflin loaned space and/or labor to help us carry it off. Mike will sponsor Brunswick's 4th annual model railroad show during the RailRoad Days Festival October 5-6, 1996.

And then there was FARFest. MADRA came through again to fulfill the role of Hospitality Committee. Did you notice the helmet-mount video camera sported by Chris (N3TIK) as he motored our golf cart around the Fairgrounds? If you stopped by the MADRA trailer and table you may have had a chance to see the ATV display of MADRA's team delivering food and drink to the intrepid volunteers on the gates and at the special event station.

Can you help us on RailRoad Days? We use a lot of Hams in 2M HT work to help the City of Brunswick run their festival. We encourage you to bring your HT, some batteries and the family. Donate 2 hours of comms support and enjoy the festival, before and/or after. If you can help, check in on our Tuesday night net or call Roy Bates (N2CSQ) at 301-834-9351 to schedule a short tour of duty. And, if you'd like to join us for our monthly dinner, it will take place at Red, Hot and Blue, in Frederick at 7PM on Thursday, Oct. 10.



Montgomery Amateur Radio Club

Meetings: 1st and 3rd Wednesdays of each month at 7:30 p.m., Executive Office Bldg, Montgomery Co. Govt Center, 101 Monroe St, Rockville. Park in underground lot G-2.

Repeaters: 146.955 (-600) & 442.750 (PL 156.7) in Rockville.

Club Net: Every Sunday night at 7:30 PM, on the MARC repeater.

Internet: <http://www.dsport.com/marc/>

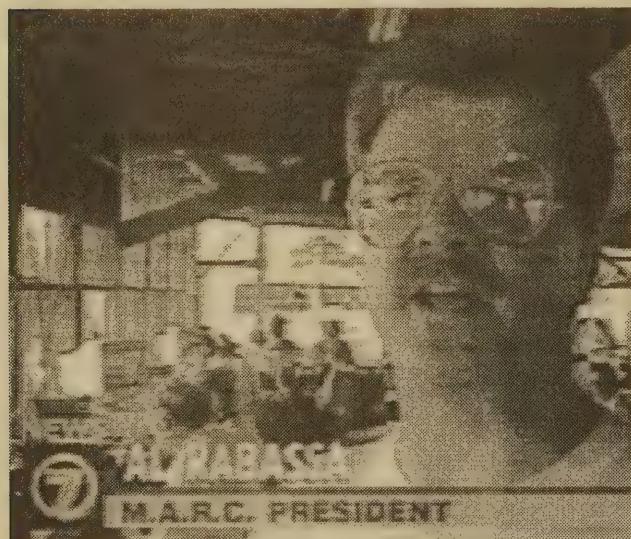
Mail: MARC, P.O. Box 611, Gaithersburg, MD 20884-0611

Information: Jeff - KZ3F (301) 258-0112

Training: Ms. Rocky Jones (301) 216-5210

MARC in the news

With Field Day behind us and all of the scores and bonus points submitted, one of the most memorable contacts was with the WJLA Channel 7 News team. This single contact not only earned us 100 points for media coverage, but also gave the MARC Club about 5 minutes of air-time in the Washington DC metro area. Larry "Hal" Herman,



KE3TS, shot 30 minutes of raw footage which became the video sequence for Andrea McCaren's

6PM news spot on Saturday. Modified clips were shown again at 11PM and on Sunday morning. The MARC Club also made the API Wire Service as this was a media covered event. The text of our annual Field Day was available to other news stations and services. The news spread quickly. By 10:00PM we had TV sets running at our FD site. There was a moment of RF silence as the newscast began about FD, and then back to the pileups. Oh yes, TVI? You bet!

Fall construction project

This fall we will be building 2 meter "brick" amplifiers. MARC President Al Rabassa, NW2M is preparing for this project. This is the kit offered by Communication Concepts in Ohio, and is based on a Motorola Application Note for the MRF-240 VHF transistor. This amplifier will take your 1/2 to 5 watt signal and amplify it to 35-40 watts. It will amplify FM, CW, and SSB signals- a great combo for HT and transverter owners! Al will be collecting for these kits thru our first meeting in October, with both meetings in November dedicated to construction. Please contact Al (aor@gteais.com or 301-294-8621) or tune into the Sunday night net at 7:30pm local for additional details.

Don't delay! For those of you who are not aware of the MARC construction projects, we have built dummy loads, 2 meter intermod filters, 2 meter yagis, 440 yagis, and VHF/UHF active direction finders. Since we build 50-60 units at a time, we use our buying power to our advantage. This project will be no exception.

Election Process

The election process for Officers and Directors for 1997 has begun. The nominations meeting will be held on October 2nd. Our annual meeting and election process will be held on November 6th. Please vote early and often!

That's it for now. Please tune in to our Sunday night net at 7:30pm on 146.955 for discussions of

our club's events. The net also has a technical-help, and buy/sway/sell segments along with the Amateur Radio NewsLine audio broadcast. We turn off the 3 minute timer, so please come visit!

73, Al Rabassa, NW2M



National Capitol DX Association

Meetings: Feb, Apr, Jun, Oct and Dec. at a member's home. Contact the Secretary (Rick Murphy, WA1SPT) for details.

On-the-air: Every Sunday at 8:30 PM on the 147.000 repeater. All are welcome!

Information: Jeff Strandberg-WV3B (301) 587-3396, Rick Murphy-WA1SPT (703) 280-2637 or Leo Boberschmidt-KA3TGY (301) 946-3738.

Kudos to Marty W3YOZ for another spectacular Fowlfest feast. On account of his hospitality — and W3LPL Frank's in June — NCDXA is sending a commemorative honorary membership certificate to each as a big thank-you card.

Hank W3ACE was accorded life membership, and the grapevine hums that Ralph K1ZZI may be I-B-Moved to Georgia before too long; once it's official, a confirmation will follow.

Members voted in Paul N3RQV as an Associate Member while he whittles down his remaining dozen or so confirmed DXCC countries — a hearty welcome to Paul.

Fred K3ZO told us of his experiences as a judge in the '96 WRTC championships held in the San Francisco Bay area recently. Dave, AA6DC related the travails of operating from A61.

And in what may portend to be the first of other such announcements, I'm pleased to announce that Mel KN4ZT is now known once again as Mel

K7CMZ.

Matching contributions for the Kermadec Island DXpedition were received, and Henry W3UJ reminds all that 1997 annual dues are technically payable in October.

To those of you awaiting certificates, rest assured they'll be available at our next meeting (sidebar to WA3DVO: yours is coming via pony express).

Speaking of meetings, the next one is scheduled for October 19th as our annual business meeting, but two problems have arisen. First, despite the fact that it in all likelihood won't be a dinner meeting, we lack a venue at this time. So I must muster my most earnest plea for one of you to come forward.

And second, as of this writing it looks certain that I will be in Canada on business that Saturday. In that event, I trust Erin N3HSA, NCDXA Vice-President, will be able to fill in and conduct a meeting to nominate and ratify a new slate of officers for 1997.

So in the midst of the equinox DX season, please be thinking of who you think would serve NCDXA well as a President next year. All of you will receive written details on the time and place of the next NCDXA meeting once one of you steps forward to host it by contacting me.

Best 73s and gud DX de Jeff WV3B

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Northern Virginia FM Association

Meetings: Fall, Winter & Spring

Weekly Nets: NVFMA, Wed, 8 PM, 146.79-
ARES, Sun, 9 PM, 146.91. Equipment Clinic,
1st Wed of the month, 7:30 PM, 146.79.

Repeaters: 52.37/53.37, 146.19/146.79,
146.31/146.91, 222.50/224.10 Xlink, 222.74/
224.34, 449.75/444.75, 1272.1/1292.1.

Membership Info: Ann Herlich/KD4GSU,
(703) 481-1458.

Mailing Address: NVFMA, P.O. Box 486,
McLean, VA 22101.

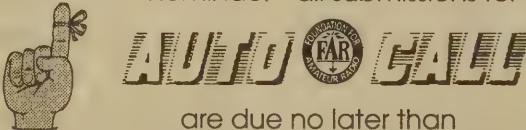
Be sure to attend the next NVFMA General Membership meeting to be held Thursday evening (7PM), October 17th, '96 at Virginia Electric & Power offices, 3901 Fair Ridge Drive, Fairfax, VA. Go west on Rt 50, pass FairOaks Mall, under the West Ox overpass. Make the 1st right-hand turn past the EXXON service station. Park in the rear of the building.

There will be opportunities to be 'proactive' in your repeater organization in January 1997. NVFMA is seeking candidates for Board of Director(s), Treasurer, Secretary, and FM Clinic Operator(s). Please share your talents; take an active role in our fine repeater association!

Come join your friends Monday evenings, 8PM on 146.79 MHz. The NVFMA "TALKNET" covers a wide variety of interesting and informative discussions. Please join in or just listen while working on your ham radio projects!

73, Gil, K70R

Reminder - all submissions for



are due no later than
the 1st of the month prior to the
month of publication!!



Prince George's Wireless Association

Meetings: First working Tuesday of each month, 7:30 PM; American Red Cross bldg., 6206 Belcrest Rd, Hyattsville, MD 20782

Club Station: K3CEZ

Mailing: 4109 Kennedy St., Hyattsville, MD 20781

Information: Frank Holton - WA3ZMW
(301) 927-1245

PGWA held its monthly meeting on Tuesday, August 6th in the Red Cross Bldg, in Hyattsville, MD. However this meeting started with a new idea, thanks to Dave, WB3KXL.

Dave made a suggestion at the previous month's meeting that if the members might meet for dinner at a nearby restaurant first. So nine of us had a sociable meal at Shoney's in Prince George's Plaza in the Hyattsville area.

The radio room for PGWA has also taken on a new look. Previously we had to share the room with the Red Cross as a temporary store area. But now they have moved to another place in the building.

Frank, WA3ZMW, carried on the usual business meeting. Then a video tape of all types of antennas, and the different R.F. lobe patterns each produced, were shown.

For the September meeting we will meet at the Hot Shoppes, also in Prince George's Plaza. Later at the Red Cross we will have the business meeting with a new ARRL video tape to be shown. Your presence is open for invitation.

73's From Ken Easton N3HLY



Shenandoah Valley Amateur Radio Club

Meetings: First and Third Friday of every month at 7:30 p.m. SVARC Club House 2921 Grace Street, Winchester, Virginia.

Repeater: 146.22 In/ 146.82 Out.

Net: Shenandoah Valley Emergency Net (SVEN) 7:15 daily on 146.22/146.82 Repeater.

Mailing: P.O. Box 139 Winchester, 22604.

President: Fred Wetzel (W4KRT).

Info: Irvin Barb, W4DHU, 955-1745.

Internet home page: <http://www.w3ic.com/inet/svarc>.

Greetings once again from the Shenandoah Valley! Its hard to believe summer's over already. After the August 4th Hamfest, things didn't slow down one bit for the SVARC. This year's hamfest was well attended and we had a beautiful weekend for it.

On September 14, the club held their annual picnic at the club house. We had a huge cookout and a mini swap fest in the parking lot. Jane Barb (KD4IET) coordinated the event. Thanks to Jane for all of her diligent work. The food was wonderful!!

Coming up in October the SVARC will be participating in a Simulated Emergency Test (SET). This event will coincide with the Fort Valley Endurance Horse Trial which will give us the opportunity to do some field testing. It should be a real challenge having all of this going on at the same time!

Well that's it for this month, 73 de KE4QJT

Laura Stewart :)



Southern Maryland Amateur Radio Club

Meetings: 2nd Friday of each month at 1930 ET at the PG County Police, Clinton Station, 6707 Groverton Drive, Clinton, Maryland.

Nets: Tuesday at 2000 on 147.15+ Repeater; Wednesday at 2000 on 1.865 (+/-QRN); Thursday at 2000 on 28.447 USB.

Repeater: WA3YUV/R 147.15+, Cheltenham, Md. Autopatch to 911.

Mailing Address: P.O. Box 273, Cheltenham, Md, 20623

Information: Vic (WA3YUV) & Linda (KA3VNI), (301) 888-1388.

Internet: <http://www.iscanit.com/smarc>

With the kids finally back in school, peace has returned to the household. It certainly gives one the chance to get ready for winter. Hard to say that but October certainly brings reminders that the summer, such as it was, is now behind us. With all the hurricane threats we have had recently, it goes without saying that we need to be prepared for the unexpected. (Oh, you don't remember last winter??).

The big news this month is that SMARC has entered the modern electronic age with our own Internet site. Thanks to the efforts of Rick, KK4GV, SMARC's site was launched during August. Not only can you find the latest information about SMARC at the site but it is an opportunity for any member to show off their stuff with your own home page linked to the club's. Check it out at <http://www.iscanit.com/smarc> and let Rick know what you think.

Time to mark your calendars for the annual SMARC Christmas Party. Boy, was that hard to type, Christmas. It can't be time for that yet, I still have unpaid bills from last year. Anyway, the SMARC Christmas Party is scheduled for Friday,

December 13, 1996, at the Camp Springs Elks Lodge. Cocktails are from 7-8, dinner from 8-9, 9-9:30 is the business meeting, Indian gift giving 9:30-10, and dancing from 10-midnight. The cost is only \$20 per person. We need to have a minimum of 75 people attending so make your reservations by November 1st.

Remember last month I told you about the SMARC Ham of the Year award? This program is intended to recognize the SMARC member that best exemplified the spirit of amateur radio throughout the past year. With the Christmas party just around the corner, don't forget to get your nomination to the board of directors soon.

The SMARC October meeting is going to feature our own Rick, KK4GV, who will be giving a presentation on the Internet, highlighted by a visit to SMARC's new site.

From the discussions recently on the repeater, I am sure that with a little persuasion, Rick will gladly show you some of these interesting sites. October is also the month that nominations for the 1997 club officers are made. Elections are to be held at the November meeting.

Rumor has it that our president, Dave, KE3ID, has found a buyer for his house and is making plans for his move to Virginia. We also hear that he will be remaining in the area for a while so we should be able to convince him that the President's gavel should be in his hand. (We did find the gavel, didn't we?)

Don't forget that our 10 meter net has resumed after its summer break. Fire up that 10m rig and join us.

And that is the big news from southern Maryland. Be careful and we will see you here again next month.

73, Greg - WA3FSC

The Middle Atlantic FM and Repeater Council, Inc.

Meetings: Coordinating Committee (CC) normally meets the last Monday of each month, 19:30, in the OEP conference room of the Prince George's County Emergency Operations Center off Central Avenue. Talk-in on 147.18.

Address: P.O. Box 1022, Savage, Md. 20763-1022 for all correspondence.

E-mail: [HTTP://WWW.T-MARC.ORG](http://WWW.T-MARC.ORG).

Our ombudsman is busily checking the operational status of several repeaters which have been reported to be off the air. Remember, if your repeater is off for more than 30 days and T-MARC hasn't been advised, your coordination is subject to immediate cancellation. Please keep us advised if your machine goes off the air, for any reason.

We received several notices of proposed new coordinations on 144 and 222 MHz from the ARCC, our neighboring coordinator to the north. The Chesapeake Bay RA repeaters have a new trustee. Thanks for advising us!

We received a complaint from a repeater sponsor in the Tidewater area of Virginia of "interference" from a co-channel repeater here in the T-MARC area. After a review, it appears that they can hear our repeater when there is a bit of a temperature inversion (which occurs frequently up and down the Chesapeake Bay).

Although this may be a nuisance, it doesn't meet the true definition of "interference", which is the only condition that concerns coordinators. Remember, there is no such thing as a "clear channel". Although hearing a distant repeater when your local machine is quiet, or hearing the user of another machine occasionally keying up your local one may be annoying, this is not "interference", so we all just have to live with it.

Last month I briefly discussed the 902-928 MHz band. This month I'll talk about the other non-Amateur users of the band that we must share it with. Other users include the government, including military radar and mobile operations, and Industrial, Scientific and Medical (ISM) equipment, such as industrial RF ovens, which operate under FCC Part 18.

Also, the Location and Monitoring Service (LMS), which is used to keep track of the location, for example, of fleet vehicles and municipal buses, under Part 90 of the FCC Rules. LMS is also used for automated toll booths, and tracking of railroad cars. LMS uses spread spectrum, and the mobile transmitters can use as much as 30 Watts RF output. Some base stations can run up to 300 Watts!

Unfortunately, we Amateurs are secondary in priority to all of the above listed users - which means that we must not interfere with their operations, and we must accept any interference they may cause to us.

Other users of this band include low-powered consumer electronic devices, such as cordless telephones, video baby monitors, wireless headphones and video distribution systems, etc. We Amateurs do have priority over these FCC Part 15 devices - they cannot cause interference to us! Of course, the tricky part is finding the "culprit", and convincing the user that he has to cure the problem! (But that's a topic for another day, HI)

73, Gary, W3DTN, T-MARC PIO

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**Vienna
Wireless
Society**

Meeting: 7:30pm second and fourth Fridays of the month at the Vienna Community Center.

Nets: Pow-Wow nightly at 9 pm. on 28.444 MHz Slow speed code, nightly 8:30 pm on 28.390 MHz. Vienna Emergency Net, Wednesday 7:30 pm 146.085/146.685

Repeater: K4HTA 146.085 in/146.685 out

Information: Paul, AB4CY, (703) 560-2779

Mailing: P.O. Box 418 Vienna, VA. 22183

Our main event for August was our annual picnic. It's that time of year when just about everybody is somewhere else but we had 25 hardy souls turn up on a beautiful Sunday afternoon for a repast and some good conversation. We had several interesting programs during the month.

Bruno Pattan made a presentation on "space-junk" that has accumulated during 25 years of space use. His figures show about six million pounds of debris from spent rockets to lost gloves floating around in never-never land. Apparently these things present problems for future generations of Low Orbiting Satellites.

The other program was a mystery identification night with ten electronic oddities like a VR tube, latching relay, one inch CRT, photocell, crystal detector, etc. Not everybody could guess the whole lot.

October brings the "Spook-Watch" where we help out with crowd control and lost kids at the Vienna Halloween Parade. Last year's parade had about 75 floats and drew quite a crowd.

With school in full swing we expect to get back to our usual busy schedule.

Paul, AB4C

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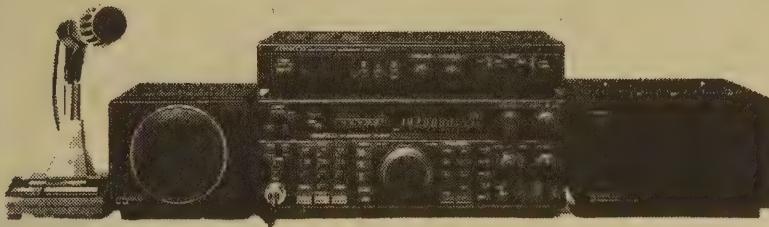
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FOR SALE: ICOM-740 xcvr, built-in power supply, and IC-SM6 desk mike, \$525; IC-SP3 external speaker, \$35; MFJ-901 tuner, \$35; GAP Titan-DX antenna, \$250. Take it all for \$695-Red, N3DNH, (301) 498-0548. [10/96]

WANTED: SWAN 350 External Power Supply and Cable. Fixing up to be available for Novices. Ken Anderson - W4JQT 941-475-3172 - 998 Bay Vista Blvd. Englewood, FL 34223. On Packet send to W4JQT @ WD4NKZ Venice, FL. [10/96]

WANTED: Model 100 Tandy computer good condition. Call Bob W3GVH (301) 593-0406. Silver Spring, MD. [10/96]

FOR SALE: Shure manufactured microphone built and sold by Radio Shack (33-984D) dual impedance (hi/lo), unidirectional, with swivel stand adapter, wind screen, and zippered bag (with cable), \$40.00. Ted, N4XX. (703) 780-6397. [10/96]

FOR SALE: Kenwood TS-520SE, w/microphone. \$100.00. Mike, KC4NEJ, (703) 698-5198, 8-9 P.M. [10/96]

FOR SALE: Icom 740 xcvr, built-in power supply, and IC-SM6 desk mike, \$525.00; IC-SP3 external speaker, \$35.00; MFJ-901 tuner, \$35.00; GAP Titan-DX antenna, \$250.00. Take it all for \$695.00. Red, N3DNH. (301) 498-0548. [10/96]

FOR SALE: QST '44 through '95 complete in mint condition plus 51 pre '44 issues in good condition. Total 55+ years for \$825.00. You pickup. W3EE, Towson, MD (410) 828-7884. [10/96]

WANTED: Apple I microcomputer for museum, KK4WW. (540) 231-6478 / 763-2321. [06/97]

FOR SALE: Icom AT-500 automatic antenna tuner. Interfaces with most Icom HF rigs. Excellent cond. \$350. John, KAØSEY. (301) 855-0198. [10/96]

FOR SALE: Tektronix model 454 oscilloscope in very good mechanical and operating condition. Complete with two probes, pedestal wheeled stand and original manual. \$350.00 or trade for 9-band HF transceiver. Ernie Farkas, K3CBW, Catonsville, MD. (410) 747-1377. [10/96]

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REMINDER...



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[SWP]

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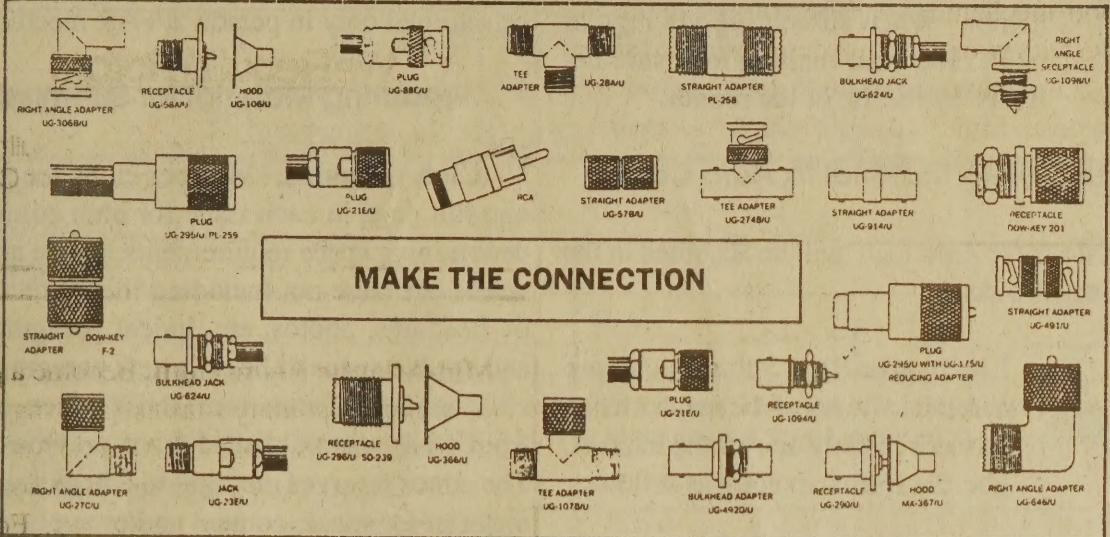
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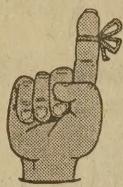
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Deadline: The deadline for ALL submissions to *Auto Call* is the 1st day of the month prior to the month of publication. When submitting via regular mail, time your mailing to ensure delivery by the 1st of the month.

Submitting Material to *Auto Call*

Submissions for *Auto Call* will be accepted in the following formats:



Electronically: Submissions are accepted via any of the major on line services directly or over the Internet. Use the format exactly as follows:

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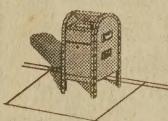
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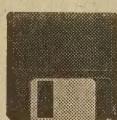
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Regular Mail: Mail typewritten or computer generated hard copy to: John Queen, Editor, Auto Call Magazine, 755 Woodland Way, Owings, MD 20736. Ensure that your printed material is dark enough for scanning.



Computer Disk: Submissions are accepted on 3.5" or 5.25" computer disk, in either Macintosh or MS-DOS format, using Word, WordPerfect, or standard ASCII text files. Write your name, telephone number, and club name on the disk. Submit graphic files (club logos, etc) in an EPS or TIFF format. Please verify the readability of your com-

puter files before sending. If you want your computer disk returned immediately, include a SASE envelope with .32 postage. Otherwise, disks will be returned only in person at FAR meetings.

Preparing Material for Submission

Club Columns: Member clubs are allocated one full page in each issue for club columns. In determining space requirements, figure about 700 words per page not including the space taken up by headings, photos, etc. Indent paragraphs .25" and double space to begin a new paragraph. Send club header information ONLY when different from what was published from previous month. The editor reserves the right to edit any submitted material for space, content and/or applicability.

Hamfests/Events: Member clubs are allocated one full page per year to promote one club sponsored hamfest, convention, or special event. Submit clean black & white camera ready copy only by mail. Master copy should be in black ink on white paper and should be in proper page ratio, (Copy space is 7" wide by 9" high). Copy can be reduced or enlarged as necessary. Electronic submissions of Hamfest ads will not be accepted.

Photographs: The editor will select the best photograph submitted for the cover each month. Photographs should depict club members, club stations, or amateur radio related events that are current and noteworthy. Clubs may also submit photographs for inclusion with their club column. Photographs will be used in columns when space permits. Either B&W or color photos can be used. For each photograph submitted, write your name, phone number, and club name, along with a description of the photograph on a piece of paper, and tape it on the back of the photograph. Do not write on the back of your photo. If you want your photos returned immediately, include a SASE envelope with sufficient postage. Otherwise, photos will be returned only in person at FAR meetings.



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Area Club Meetings - October 1996

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Antietam PGWA	2 BARC Montgomery	3 AnneArundel	4 Mobileers Shenandoah	5 Green Mtn.
6	7 DOSARC	8 Fauquier Frederick Woodbridge	9 FAR - MD HEMARC	10 MADRAS Mid-Atlantic Mt. Vernon	11 VOA Vienna So. Maryland Alexandria	12 North Point
13 Metro Comm	14 Carroll Co.	15 Antietam Arlington	16 BARC Goddard Montgomery	17 AnneArundel	18 Shenandoah	19 Capital City QCWA 91
20	21 OVHA	22 Columbia	23 Moose Laurel	24 MADRAS St. Mary's	25 Central MD Vienna	26
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